JOURNEY TO

ABYSSINIA

IN THE PROVINCES OF TIGRÉ, SAMEN, AND AMHARA

DEDICATED TO H.R.H. HIS LORDSHIP
THE DUC DE NEMOURS
BY

MESSRS. FERRET AND GALINIER

CAPTAINS IN THE ROYAL CORPS OF THE MILITARY STAFF, KNIGHTS OF THE LEGION OF HONOR

VOLUME ONE

Published by order of the Government.

PARIS
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60, RUE RICHELIEU

1847

Translated By Julian B. Fleischman
In collaboration with Missouri Botanical Garden
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YOUR LORDSHIP,

At the moment that a traveler sets out on a long expedition a great anticipation beckons him beyond the seas and barren deserts. It does not hide the dangers that he will undergo, but it does reveal the areas of science broadened beneath each step, the world of discoveries unfolding new perspectives as he proceeds, the commerce that follows him ready to open a route everywhere that he has forged a path, and civilization claiming the ground as soon as civilized man has set his foot on barbarian soil.

Regrettably this spirit that called him far away is not always with him on the vessel that brings him home. On his return he wonders

if he has achieved his objective, if his work will in fact be useful for the science to which he is committed, and to mankind who should compensate him for his sacrifices. Comparing his labor to its results, he is astonished to find how little resulted at such great effort.

We have experienced this surprise and have felt its disappointment. Even the favorable welcome that the world of science accorded us wasn't sufficient to relieve us of a worrying uncertainty. But **YOUR ROYAL HIGHNESS** had seen fit to offer us your encouragement along with the leaders of science. From that point on we dared to believe that our efforts were useful and that the work we accomplished was important.

Emboldened by your generosity, **YOUR LORDSHIP**, we offer you today the modest fruit of our labor and request the favor of placing **YOUR ROYAL HIGHNESS'** name at the head of this work.

We have tried to present a faithful picture of the customs, practices, and life of a people whose origin goes back to the beginning of the world. Closed off by mountains, they freely created an apparently impregnable island where they defended their laws and religion for more than six centuries

against a relentless tide of pagan and Muslim tribes around their shores. A Christian people, friendly to Christian France, connected by the solidarity of faith, and already prepared to accept western civilization, the offspring of the Gospel.

For that reason, **YOUR LORDSHIP,** this work, such as it is, may be worthy of your attention. No humanitarian concern would seem indifferent to you. At the side of your eminent father upon the high position from which princes and kings behold the diversity of all things you witness the struggle of civilization against barbarism. You can help rough and ignorant people discard the ancient prejudices that debase them and imbue them with the most important ideas of morality and religion.

Our efforts will not have been in vain, **YOUR LORDSHIP,** if we have drawn your attention to Abyssinia, aroused your interest in the destiny fate of its inhabitants, and in that way hastened the triumph of civilization in the heart of that rich country that in every way deserves the most enthusiastic support of the civilized world.

It will be fortunate as well, **YOUR LORDSHIP,** if you can notice in the enthusiasm with which we have fulfilled

our mission, the mark of the devotion that inspired us when **YOUR ROYAL HIGHNESS,** in the quest for military glory as at Antwerp and at Constantine [*Translator's note:* the citadel of Antwerp was captured by the French in 1852; Constantine is a city and a department in Algeria, captured by the French in 1837.], summoned us to serve under the flag to defend the honor and interests of France. France, that from the banks of the Nile seemed to us so noble and so beautiful, and that under the virtuous and magnanimous rule of **HIS MAJESTY LOUIS-PHILIPPE** is rightly recognized as the foremost nation in the world.

With our deepest respect,

YOUR LORDSHIP,

the most humble and obedient servants of **YOUR ROYAL HIGHNESS,**

A. FERRET **AND** GALINIER,

Captains of the Military Staff.

PREFACE.

[*Translator's note:* some of the geographical place names in this translation are spelled as they appear on current maps of the National Geographic Society.]

Following the great discoveries of Christopher Columbus and of Vasco da Gama, our knowledge of geography has made enormous strides. The seas have been plowed and their depths have been sounded. Explorers have searched the New World. Science finally marches triumphantly over the entire globe, which now has become its realm. Guided by the compass, served by a multitude of astronomical instruments, it has indisputably defined the locations of kingdoms,

tribal boundaries, the courses of rivers and the shores of the seas. In its far-flung excursions and long odysseys it has accumulated precise facts and fixed concepts whose importance everyone appreciates. These facts and concepts affect theoretical studies, politics and commerce, in other words, the present and future of mankind.

However noble were the efforts of these navigators and as great as their results were, it can be said, without diminishing their honor in any way, that mysterious Africa today still has managed to evade exploration. At present, as in ancient times, this vast continent draws the impenetrable veil of ancient Isis about itself. Barely a corner of this veil has been lifted by fearless hands. If Bruce, Mongo Park, Denham, Claperton, René Caillé and others less renowned but no less courageous, have stepped upon the shores of this burning and inhospitable land, no one before now has penetrated the heart of central Africa. Between the Atlas mountains and the plateaus overlooking the Cape of Good Hope, between the coast of Guinea and that of Zanzibar,

live people whose names we don't know. Antiquity has left us a great problem to be resolved, but no Oedipus yet has solved this sacred enigma.

When we planned to leave for Abyssinia, we intended to head for the source of the great river [*Translator's note*: the Nile]. Has it remained for us to discover it? We hadn't hoped for that much. We only planned to press far enough into the interior provinces to shed some new light on them. The information that we were able to gather, and indeed we did get some, will be discovered by our readers in the course of our account. At this point it's appropriate just to mention the topics that diverted us from our main undertaking.

Above all we hasten to add that we did not stray from the path to which we were committed. We can state more certainly than ever: one has to pass through Abyssinia if one wants to come upon the great river at the very fount of the unseen deity who brings it forth.

PREFACE.

At the moment we left France, a group of merchants prepared themselves for the commercial exploitation of Abyssinia. Their plan traced a route through the northern provinces called the Tigré, so that products from Abyssinia could be transported on the Red Sea from the port of Massawa. So it was important for the success of this enterprise that the Tigré be thoroughly explored geographically as well as for its commercial resources. We dedicated our mission specifically to meet this requirement. We hoped that we would be helped by the efforts of travelers who had preceded us in that country, and that when we departed we would soon fulfill the obligations required of us, and that we could extend our explorations further. But as soon as we took our first steps in the Tigré, we unfortunately realized that in Europe no one yet had any precise idea of the contour of this country. At that point we had to give up our initial plans and devote all of our time to the exploration of the northern provinces of Abyssinia.

But from another viewpoint, more than all of the other parts of the Ethiopian empire, northern Abyssinia deserved the travelers' full attention. In the ancient world the great mercantile route that linked the Isle of Méroé to the Red Sea passed through the territory of northern Abyssinia [*Translator's note:* Meroë (or Merowe) on the bank of the Nile in northern Sudan was an ancient iron smelting center]. Even in our day products from the interior of Africa still flow that way. The geographic location of northern Abyssinia readily accounts for its beneficial advantage. It takes three days for caravans to cross the district of Chohos and to arrive at the port of Massawa. By contrast those from southern Abyssinia take an entire month to reach the port of Tatjourra across a fierce intractable desert that lacks water almost everywhere, and where native tribes without restraint lie in wait for travelers as though they were their natural prey. So it's not a surprise that merchants always chose the route through Tigré. If the ancient world had already marked the route on the ground, it's now up to modern expertise to open it up, especially at the moment when the country is ruled by an able prince who recognizes the superiority of the West and has proved it in a striking way

by asking to be placed under France's protection.

If we've adequately explained the importance of the northern provinces of Abyssinia, it will be clear why we confined our explorations there and have resisted the temptation to become involved in the interior of Africa. On one hand it's tremendously attractive, and on the other there's an immediate benefit and an even a greater interest for the future. The questions that seriously preoccupy today's best-informed and most astute minds are the opening of the isthmus of Suez to navigation and the passage of the Indies' trade through the Red Sea, which is the most direct route. We believe that we have performed a useful service in preparation for accomplishing these goals if we have provided accurate information in advance about the plateaus of Tigré, Samen, and Amhara and of the populations bordering the sea, and that Europe will visit the former when it establishes contact with ancient Africa.

As to the work that we carried out during our journey, it's not for us to judge its merit. But we offer our results to the public

with few qualms, since the Geographical Society thought that they deserved its grand prize. To further reassure ourselves against any small but genuine concern, we provide a copy of the report that the Academy of Sciences was kind enough to include in its meeting of October 28, 1844.

The last and most pleasant duty that still remains for us is to publicly acknowledge so many distinguished individuals who have lent us their support during our venture, and following our return to France, never ceased to offer us their capable guidance.

Our heartiest thanks and deepest gratitude go to Field Marshal Duke of Dalmatia. He is worthy of the honor accorded him. It was he, as foreign minister, who first established representatives of France on the Red Sea. He provided the stimulus for exploratory projects in the area around it. After he had done so much to attain military honor, the distinguished marshal achieved no less for his political fame. With the wisdom of a statesman

he foresaw the future importance of a country that through Europe and for Europe must again rise to its former splendor.

We likewise thank Lieutenant-General Baron Pelet, Peer of France and Director-General of the garrison depot. After organizing our notes and collections we were placed under his command and found him always to be most courteous and encouraging. He constantly sustained us with his valuable support and often helped us with even more worthwhile advice. He gladly arranged to have our charts printed; thus we can offer to the public an assurance of their fine execution.

We cannot forget the tremendous service that M. Arago rendered us with his support at the Academy of Sciences and in enhancing the value of our modest efforts with his well-known talent as a writer. His generous and enthusiastic intervention came as no surprise to us. We knew that this great astronomer always lent his support to those who were devoted to the interests of science,

No discovery, whether outstanding or modest, whether on the continents of the earth or in the heavens, is made without it first being announced to the world and popularized under his authority.

Additionally, we won't forget Lieutenant-General Schneider, the former minister of war, who gladly honored us with his good will at our departure and took a most active interest in the project that we were about to undertake.

Finally we thank Lieutenant-General Moline de Saint-Yon, Minister of War, Count de Salvandy, Minister of Public Education, Baron de Mackau, Minister of the Navy, Count Duchâtel, Minister of the Interior, and M. Cunin-Gridaine, Minister of Commerce, who have agreed to endorse our project.

Messrs. Viscount Decazes, Count Dejean, Baron Martineau-Deschenetz, Under-Secretary of State, and Jomard of the Institut de France were particularly interested in our publication. Messrs. Rivière, Guérin-Méneville, Delille and Reiche willingly took the trouble to view our collections, to describe them, and to classify objects that until now were unknown in natural history.

We hope they also would be kind enough to accept the expression of our gratitude. Words cannot discharge our obligation to them; it is one for which we remain forever in their debt.

REPORT

ON

WORK PERFORMED IN ABYSSINIA

BY MESSRS. FERRET AND GALINIER,

CAPTAINS OF THE STAFF.

COMMISSIONERS:

MESSRS. DE MIRBEL, BEAUTEMPS-BEAUPRÉ,

DUMÉRIL, ISIDORE GEOFFROY-SAINT-HILAIRE, ÉLIE DE BEAUMONT,

ARAGO, reporter.

ACCOUNT OF THE ITINERARY AND JOURNEY.

"During the year 1839 the marshal, president of the council and minister of foreign affairs, decided that two staff officers, Messrs. Galinier and Ferret, would be sent to Abyssinia to study the customs, practices, religion, political institutions and all varieties of resources belonging to the inhabitants of that country. During their difficult mission they also should facilitate, as much as possible, trade that the French merchant ship, the *Ankober,* wished to establish with Abyssinian merchants along the shores of the Red Sea.

"Inspired with admirable zeal, Messrs. Galinier and Ferret resolved to dedicate their expedition to the progress of science. They requested from the minister of War instruments for astronomy, geography and meteorology that could meet their objectives. These were supplied to them immediately. We doubtlessly will anticipate the Academy's wishes by listing here the measuring devices that our young fellow-countrymen were able to use.

"Messrs. Galinier and Ferret brought from Paris:

"A reflecting circle from M. Gambey, 0.49 m. in diameter [*Translator's note*: the reflecting circle was a navigational instrument for astronomical measurements; Henri-Prudent Gambey (1787-1847) was a manufacturer of high-precision instruments in Paris];

"An artificial horizon made out of two levels containing air bubbles;

"A pocket chronometer, from M. Motel;

"A theodolite from M. Gambey;

"A 60 millimeter aperture astronomical telescope mounted on an adjustable base;

"Two compasses said to be from Burnier;

"Three barometers, one with a basin and two with siphons;

"Ten thermometers.

"Before leaving Cairo the travelers were supplied with a udometer.

"Messrs. Galinier and Ferret set out from Marseille on October 21, 1839 aboard a government steamer. When they arrived in Egypt they were unable to find an interpreter who spoke both French and *Amharic*, the dialect generally spoken in Abyssinia. Tempering their enthusiasm with patience, the two travelers decided to stay a while in Cairo. Within eight months they had learned Arabic. From then on they could hope to communicate directly with many Abyssinian tradesmen. Besides, interpreters who knew the two African languages, Amharic and Arabic, are not uncommon.

"After crossing the desert of Suez the two officers took passage on a boat with no deck and crowded with Muslim pilgrims going to Mecca. They also were accompanied by Messrs. Bel and Rouget, who were going to Abyssinia at their own expense to collect specimens of its natural history.

"Twenty-three days after they left Suez our travelers arrived at Jeddah on the Arabian coast. They stayed there for a whole month, but their time wasn't wasted. Messrs. Galinier and Ferret used it to make a map of the virtually unknown countries of the Hejaz and Asir [*Translator's note:* western regions of the Arabian peninsula]. The map is based on many routes attributed to M. Chédufeau, chief doctor of the Egyptian forces assigned to protect the holy sites, and to Colonel Mari, chief aide-de-camp of Ahmed Pasha. The map was deposited in the archives of the war ministry and is not included in the documents submitted for approval to the Academy.

"The staff officers accompanied by the two naturalists left Jeddah on October 21. After sailing for nine days they arrived at Massawa on the east coast of Africa. A modest sum paid to the *neyb* of Arkiko opened this port on the continent to them. They crossed the desert of Samahr and on November 23 reached *Dixah,* one of the first villages of Abyssinia on the Red Sea side, and proceeded without delay to *Adwa*, the capital of *Tigré*. The king *Déjats-Oubié* received them favorably and allowed them to visit his dominions.

"From January 1841 until October of the same year, our two fellow-countrymen explored a large part of the Tigré quite safely. Later, the king of that province and the chief of Gondar engaged in a fierce battle, and all of Abyssinia took part in the conflict. Only by dint of courage, perseverance,

and of course hand weapons, could the enterprise continue. Nevertheless it was during such a time that Messrs. Galinier and Ferret carried out their geographical projects in several districts of the Tigré and the Samen, up to then unknown to Europeans, and in the provinces of the Waguera, Gondar, etc., and on the east coast of the vast lake of Dembéa as far as 12 degrees north latitude.

"The two intrepid geographers were on their way back to Gondar on May 2, 1842. By that time their chief protector, the king of Tigré, had been defeated and captured, the provinces were in revolt, and armed units were deployed on the roads to intercept communications. Under those circumstances it appeared impossible to continue to do anything useful in that country or to get back to the Red Sea coast. Nevertheless Messrs. Galinier and Ferret bravely attempted to return to Massawa. They traveled on separate routes so as not to risk losing all the fruits of their hardworking enterprise at once. The latter went via *Dixah* and saw his porters seized and robbed near *Tarenta*. Fortunately the robbers had no use for the papers and scattered them on the road. After several days of searching, all were recovered except for a few itineraries and observations of longitude made at Gondar. Some plant collections and jars full of insects also were lost.

"Messrs. Galinier and Ferret didn't arrive at *Massawa* until August 20, 1842. They would have been very happy to rest after their efforts. A heat wave that at noon reached 48 to 52 degrees centigrade indoors made staying in that town intolerable. So our young fellow-countrymen left right away, and after a fifty-two day sail on the Red Sea, they landed at *Cosseir.* From there we note that they crossed the desert and proceeded to Thebes.

They then went down the Nile as far as Cairo. Messrs. Galinier and Ferret sailed from Alexandria on December 22 and arrived in France on January 23, 1845.

"The journey that we will recount lasted altogether three years and four months. The time in Abyssinia was twenty months of this total period.

"The itinerary we have just sketched gives a very limited idea of the difficulties under which Messrs. Galinier and Ferret carried out their work. So that the Academy would be willing to make the necessary allowances, we point out that in several regions of Abyssinia the climate rarely spares Europeans. The account in front of us actually reads more like a necrology.

"Messrs. Galinier and Ferret had scarcely entered *Adwa* when they had to rush to the aid of M. Dilon, a traveler from the Jardin des Plantes [*Translator's note*: the botanical garden of Paris], who became ill in the province of *Chiré.* They arrived only in time to bury him, along with four of his servants.

"In October a dreadful dysentery took M. Rouget from them.

"Three days later they also laid to rest M. Schœfner, a non-commissioned artillery officer who came to Abyssinia with M. Lefèvre.

"And, as though the ravages of disease were not enough, two almost fatal lance wounds consigned M. Bel to complete rest for a very long time.

WORK ON THE GEOGRAPHICAL MAP OF THE TIGRE AND SAMEN.

"The main result of Messrs. Galinier and Ferret's expedition will be a map of a very wide region of Abyssinia.

The two officers generally were limited under the circumstances to the methods used in military reconnaissance. They sensibly realized that the only way to avoid frequent large mistakes in this type of survey would be to base everything on fixed astronomical points. These points are the true foundation of the map, so it's important above all to know how accurately they could determine their latitudes and longitudes.

" In the manuscripts of the expedition we find nine points whose latitudes are based on astronomical observations. These towns or villages are:

"Adwa, Aksum, Adde-Casti, Intetchaou, Adde-Bahro, Faras-Saber, Add' Igrat, Tchélicot, Gondar.

"An examination of the results in part established that the latitudes of these nine points were determined with completely acceptable precision. But that did not prevent us from looking for further confirmation among the works of Bruce, de Salt, and especially in Rüppell's travels. Their latitudes for four of the towns, Aksum, Gondar, Tchélicot, and Add' Igrat, when compared to the results of Messrs. Galinier and Ferret, show differences of approximately one minute. In large part these could be due to different positions chosen by the different travelers within a broad precinct bearing the same name. This would not be a permissible explanation for *Adwa*; the latitude given by Salt evidently seems to be too certain.

"As to the longitudes of points in Abyssinia determined astronomically, we first will mention Intetchaou.

"The longitude of Intetchaou is based on several series of distances from the moon to the center of Jupiter observed with the aid of a repeating reflecting circle from M. Gambey. These observations, taken over ten days between May 30 and July 3, 1841 definitively indicate 2 hours 27 minutes 31 seconds.

The highest partial result is 1 minute 25 seconds above the average. The lowest is 39 seconds below that same average. These numbers converted to arcs become 21 minutes 15 seconds and 14 minutes 45 seconds respectively.

"Errors of more than a third of a degree around the average seem large. But let's take a look at the discrepancies in similar measurements obtained by some well-known observers. It wouldn't be right to use the same standards of comparison as those used by professional astronomers who have large-scale instruments that are conveniently and securely mounted. We will look for them in the voyage of d'Entrecasteaux [*Translator's note:* Antoine Bruni d'Entrecasteaux (1737-1793), noted French naval officer and explorer] among the longitudes determined by M. de Rossel and his collaborators. After citing such authorities, no one will accuse us of having lacked rigor in evaluating the work of Messrs. Galinier and Ferret.

"At Amboine [*Translator's note:* in the Moluccas], among the longitudes deduced from the distance from the moon to the sun, there is a result that differs from the mean by nearly 24 minutes of a degree.

"At Southport in Van Diemen's Land [*Translator's note:* now Tasmania] one of the longitudes differs from the mean by more than 24 minutes.

"At Tongatabou we note a longitude that exceeds the mean by more than 26 minutes.

"These numbers fully vindicate the discrepancies in the series of longitudes obtained by Messrs. Galinier and Ferret using lunar distances. In any case it's important not to discourage responsible individuals by imposing excessive demands on them. It's not unreasonable to imagine that such demands more than once have led arrogant or anxious travelers to alter their data.

"To determine the longitude of *Adde-Casti* Messrs. Galinier and Ferret took advantage of the eclipse

of a star in the constellation Taurus that occurred on February 27, 1841. The very careful calculations of this observation appear to have been performed with all the necessary precision.

"The longitude of *Aksum* is based on observations of three stages of the lunar eclipse of February 6, 1841, and on three observations of the immersion or of the emersion of the principal moon of Jupiter.

"The results deduced from the stages of the lunar eclipse agree with one another as much as could be expected. The average is only 6 minutes of a degree less than the longitude calculated from the moons of Jupiter.

"We mention the chronometric longitudes reported for *Intetchaou, Adde-Casti,* and *Aksum* only to say that they had been determined with all the care required by the present state of geographical science.

"Where is the hidden source of the Nile? This question has greatly preoccupied travelers and geographers since remote antiquity. Maybe it's enough simply to pose the question quite logically to understand that in fact it's been completely resolved; namely that the Sudan and all of Abyssinia and not some special fixed locality should be thought of as the much sought-after source. If one hoped to find a place where the waters that form the river of Egypt emerge from underneath a few rocks on the ground, all of the many branches of the rivers in ancient Ethiopia would soon stop the explorer dead with frustration. Never mind that the poet (Lucain) once said *man had been given permission to see the Nile when it is newborn and helpless*.

"Regardless of where these comments may lead, Messrs. Galinier and Ferret's work on the general river system of Abyssinia certainly will be important.

"A divide, as it were, leads from the isthmus of Suez

and extends along the Red Sea, separating the country that it goes through into two regions. On one side, water flows to the Arabian Sea. On the other side, a much vaster region, the water flows through many tributaries into the Egyptian Nile.

"Based on their own observations, Messrs. Galinier and Ferret trace out in broad strokes the divide between the two watersheds, starting at Suez where it's only a few meters high down to the massive Lasta mountains at 12 degrees north latitude. They further extend this ridge line using information borrowed from other travelers and thus reach the *Gara-Gorfou* mountains that separate the *Nile* and *Awash* basins.

"The rivers of Abyssinia had been very imperfectly mapped. In this connection Messrs. Galinier and Ferret will implement important changes in the most highly regarded maps. For example, our fellow-countrymen have shown that the *Assam,* i.e. the river flowing through the capital of *Tigré,* flows south. Their predecessors however, with the exception of M. Rüpell, had it flowing northward. The course of the *Mareb,* a much bigger river than the *Assam*, was hardly better defined. Our travelers ascended the *Mareb* up to its source and determined the longitude and latitude of this important spot. Not long ago the *Ouarié*, the *Guébah*, and the *Aroquoa* were known only by name. Messrs. Galinier and Ferret were able to trace these watercourses fairly accurately from their origins to the river into which they flowed.

"The *Tacazé*, *a Nile of Abyssinia*, if we may use that term, naturally was the object of a very careful study by Messrs. Galinier and Ferret. They determined its course based both on their own observations and on verbal accounts that they had gathered. They began at the source of the river and followed it

to where it meets the Nile itself in the Sennaar.

"Everything we've reported thus far about longitudes, latitudes and watercourses make up only a very limited number of landmarks and checkpoints on the map of Abyssinia. And yet our travelers presented the Academy with a complete and detailed map of the provinces of *Tigré* and *Samen.* How was this vast area filled in? The answer lies in a manuscript of an account that the Commission had in front of it in which the two staff officers set out their series of operations. This account is convincing. In it Messrs. Galinier and Ferret reveal the trigonometric methods that they planned to use, the less precise but more expeditious procedures that they were obliged to use, the different kinds of evidence that they obtained either by properly directing their operations or in going over the previous observations of our fellow countryman, M. d'Abbadie. Everything in this work shows that it was done entirely in good faith. The explanatory paper will be a commendable supplement to the printed map.

"The Commission member whose special task it was to examine the geographical results of the Abyssinia expedition had in hand several of the topographic maps that had been drawn on location. A study of the maps plus the verbal explanations provided by the two travelers left no doubt that the topography of the landscape had been rendered on the new map with great accuracy. However, the Commission joined with M. Beautemps-Beaupré to express one regret: they would have wished that more favorable conditions had allowed Messrs. Galinier and Ferret to attach panoramic views to their sketches. Such views, with *angular distances* of all of the conspicuous points marked on them

that had been observed with the theodolite plus the exact orientation of one of these points determined astronomically or with a compass would prevent a flood of errors due to mistakes in the guide books, and additionally would have the inestimable advantage of being able to be conveniently consulted at any time. But let there be no mistake; this comment is by no means a thoughtless criticism of the work of Messrs. Galinier and Ferret. Rather it is the clearest recommendation for a method that mostly is disregarded.

"The Commission will not concern itself with any details about the actual construction of Messrs. Galinier and Ferret's map. It would be better if the map itself were looked at by the Academy. Each person then could get a clear idea of its progress based on the topographic methods for which we are indebted to our general staff.

BAROMETRICALLY DETERMINED ELEVATIONS OF PRINCIPAL POINTS IN THE TIGRÉ AND SAMEN.

"The barometric determinations of the heights of various mountains in Abyssinia without a doubt must be ranked among the most interesting results of Messrs. Galinier and Ferret's expedition. Since these determinations are not at all based on rigorous corresponding observations, it would be appropriate here to describe the approximate method to which our two travelers had to restrict themselves given the prevailing difficulties of their situation.

"During their stay at *Arkiko* on November 10, 1840, Messrs. Galinier and Ferret determined the air temperature and the altitude by barometric pressure at sea level, at eleven o'clock, noon, one o'clock, and at two o'clock. Five days later, at the same times of day, they performed the observations on Tarenta.

Using the results obtained on the 10th as applicable to the 15th at the seashore, our travelers calculated the height of Tarenta. Its height is 2,539 meters.

"How much of an error does one risk by not making simultaneous observations in the Abyssinian climate? Messrs. Galinier and Ferret approach the question in this way:

"During the trip from *Arkiko* to the summit of Tarenta, we stopped successively at *Ouéha,* at the entrance to the valley of *Hammamo*, and at the *foot of the mountain.* So it's possible to break down the total height of the peak into four distinct parts, four stages determined barometrically assisted by observation. Even if they don't strictly correspond they at least only are separated by very short time intervals. The height determined this way is 2547 meters. That's only 9 meters more than the result obtained by direct comparison of the observations of Tarenta with those from the seashore at *Arkiko.*

"Encouraged by such a satisfactory agreement, our travelers followed the same procedure throughout to determine altitude. Each position invariably agreed with the one they had just left a short time before.

"In the detailed table containing altitudes deduced by barometric observations, there are several results that we thought should interest the Academy.

"That table tells us that:

ADWA (capital of Tigré.....) is 1900 m. above sea level.

INTETCHAOU (a village of the district with that name..) is 2150 " " " "

AKSUM (the town with extensive ruins.....) is 2170 " " " "

DIXAH (one of the first villages in Ethiopia when coming from the Red Sea.....) is 2200 " " " "

ADD'IGRAT (capital of Agamé.....) is 2470 " " " "

ATSBI (large salt market in Agamé.....) is 2700 " " " "

"In the Samen, our two young fellow-countrymen climbed

a prominent mountain called the *Detjem* located at 13 degrees north latitude.

"The *Detjem* rises to 4620 meters above sea level according to Messrs. Galinier and Ferret's barometric reading. So the *Detjem* is only about 200 meters lower than *Mont-Blanc* in the Alps of the Savoie. It's almost as high as *Mont-Rose* [*Translator's note*: Monte Rosa, 4634m., on the Italian-Swiss border near Zermatt], and is 250 meters taller than the *Finsteraarhorn* in the Bernese Alps.

"Travelers visiting the Samen before Messrs. Galinier and Ferret had relied on simple estimates. They had been greatly mistaken about the heights of these mountains. Jesuit missionaries once claimed that the Alps, compared to the mountains of Abyssinia, seemed to be merely *mole-hills*. By contrast, some modern travelers reported the *Detjem* to be lower than the Pyrenees. A single *measurement* corrected both of these oppositely erroneous *estimates*. It also will have an additional benefit; it will dispel from science the very false notions about the altitudes of perpetual snows in Africa. In fact one can conclude from Messrs. Galinier and Ferret's observations that snow is constantly present on the *Samen*, as much on the southern slope as on the opposite slope according to the season. So the mountain-top is a uniformly frozen region all the time.

"We won't go any further, even though there are more reasons for discussing this important subject. They include the effects of the broad high plateaus from which the mountain peaks of Abyssinia rise up, and the role of recurring rainfalls and clouds that cover the sky during certain times of the year. Let's leave the pleasure and satisfaction of recounting these observations to those who carried them out at the cost of so much toil and danger.

"Our two geographers viewed the mountains of the Abyssinian province of *Lasta* only from a distance.

They thought that they were higher than those of the Samen. We would hope that such a singular region will be the next to be explored by informed European travelers with the proper equipment.

METEOROLOGY.

"The science of meteorology will be enhanced through the travels of Messrs. Galinier and Ferret by a well-developed series of barometric and thermometric observations carried out at *Adwa,* at *Aksum,* and at *Intetchaou* from December 2, 1840 until August 9, 1841, by the measurement of rainfall at 2,150 meters above sea level in *Tigré* in 1841, and by several separate observations at *Suez,* at *Jeddah,* and at *Massawa* on the shores of the Red Sea.

"Diurnal variations in barometric readings on the **PLATEAUS** of *Adwa, Aksum,* and *Intetchaou* will confirm, as best as can be deduced from a rough estimate, the physical interpretation made by one of us about the absence of diurnal variation at the *Saint-Bernard*. The 78 centimeters of water collected at *Intetchaou* from April to September will explain how the *Tacazé* [*Translator's note:* a major river in Abyssinia], which in certain seasons isn't even one meter deep, at other times rises to five or six meters above its normal level. A careful reading of the meteorological record will show that the season of recurring rain rightfully could be called the stormy season as well.

"A meteorologist, when examining the records of the expedition, would want to know if the diurnal change in temperature influences the larger phenomenon of the rains. He will be struck by the extreme regularity of this phenomenon. In July the sun shines every morning.

About noon, the sky clouds over while the east or southeast winds pick up. Around 2 o'clock thunder rumbles, the wind strengthens and the rain comes down in torrents. Before sunset the sky clears once again, and the nights often are very beautiful. In August this regularity already is broken up. It rains then at any time and sometimes for the entire day. The rains stop at the end of September.

"Would one want to know, apart from the latitude of the location, if the mountains on one hand and the rather sandy soil on the other, play active or passive roles in the production of the periodic rains. The following passage, taken from the records of Messrs. Galinier and Ferret, will answer the question:

"At the time that the periodic rains descend with force in Abyssinia, the burning sun relentlessly bears down with intolerable heat upon the *Dankali* situated on the other side of the ridge line between the first Abyssinian mountain chain and the Red Sea. Only when the high country is sufficiently watered and refreshed that a few rare cloudbursts open up over this seemingly accursed land to fill cisterns dug among the rocks, the only resource for nomadic populations during the long dry season." The kingdom of *Adel* likewise has no real periodic rainfall. In this sense its climate contrasts with that of the higher regions of Abyssinia as much as that of the *Dankali*.

"The two travelers measured the temperature at *Intetchaou* using a thermometer inserted into the ground. This will be a new way to avoid the errors that physicists are liable to make when they try to determine, using observations carried out on the plateaus, the formula for the reduction of heat in the open air.

"Barometric observations in *Jeddah* confirmed on a similar instrument, although few in number, will help to determine in which class of terrestrial regions based on atmospheric pressure the shores of the Red Sea belong.

"We had hoped for a moment that the barometric levels at *Suez* could help to confirm accepted notions about a difference in sea level between the Red Sea and the Mediterranean. But this difference is so small that it would have to be rigorously confirmed by corresponding observations.

" Physicists, chemists, and geologists will be grateful to Messrs. Galinier and Ferret for having taken advantage of their visit to *Tor* to determine the exact temperature of the *Jebel-Pharaon* hot spring. The temperature was +68 degrees centigrade. The thermometer read +45 degrees in the steam filling the cave.

" We've noted with genuine satisfaction all of the observations on geography, terrestrial physics, and meteorology for which the world of science will be indebted to Messrs. Galinier and Ferret. However, these young officers had shown so much courage, enthusiasm, and skill that it was unfortunate to find a major and regrettable omission in their work. The expedition to Abyssinia offered no data at all on terrestrial magnetism! Observations of magnetic dip would have been most useful in completing the line of the magnetic equator and in substituting actual determinations for mere interpolations. Observations of intensity and diurnal variation at such high altitudes above sea level at such low magnetic latitudes would have been of enormous interest. But in the plan for the journey this field now so important for terrestrial physics was totally overlooked. When they left, our two young travelers were supplied neither with a compass

for variation nor with one for magnetic dip! Let this undisguised expression of regret from the Commission see to it that such a mistake so detrimental to science doesn't happen again.

GEOLOGY.

"The geological part of Messrs. Captains Galinier and Ferret's great work that was submitted to the Academy for review consists of a colored geological map of the *Tigré* and *Samen*, nine sections of the terrain also colored, plus a paper entitled: *Geological Description of the Tigré and the Samen.*

"In order to write up this description of an important part of Abyssinia, and to draw the map and the geological sections that accompany it, Messrs. Galinier and Ferret collected on site many samples that they retrieved from the sections and that are currently housed in the Jardin des Plantes and they compiled a notebook. After the two travelers returned to France, M.H. Rivière willingly joined them coordinating the scientific highlights.

"This work offers the virtue of novelty to a high degree and displays clarity and method at the same level. We think that geologists will read it with genuine interest. It provides in a concise framework specific ideas about a country whose geological makeup was entirely unknown before Messrs. Galinier and Ferret's journey.

"The geology of Abyssinia is highly variable. The observations of our two fellow-countrymen, ably and carefully set out by M. Rivière, show that the Tigré and Samen yield rocks belonging to very different periods in the geologic series. For example, Messrs. Galinier and Ferret found in the country of the *Chohos*, in the Tigré, etc.,

1° *primary* deposits, represented by *granite*, *gneiss*, *mica schists, protogines,* and *talc schists.* 2° *transition* deposits, represented by *phyllades, graywacke, sandstone, limestone,* etc. At the border of the *Tigré* and of the country of the *Taltals*, our two travelers observed secondary deposits that seem related to *triassic* and to *jurassic terrain.* Lastly, tertiary and modern periods are represented on the *shores of the Red Sea*, in the *Tigré,* in the *Samen,* in the *Chiré*, etc., by various sedimentary deposits and by large masses of trachytic and basaltic volcanic rock that formed independently of the preponderance of terrain that makes up the structure of the country. Messrs. Galinier and Ferret go on to list many extinct volcanoes, hot springs, iron and rock salt mines (which, by the way, the Abyssinians use for currency), fossil fuels, etc. They also turn their attention to different patterns of upheaval that have altered the ground. In a word, the work that we are charged with examining looks at the geological makeup of Abyssinia from all points of view. Nevertheless, it's very concise, considering the extent of the country and the variety of things that they found there. That's because the authors wisely resisted elaborations that would have taken them beyond the context of their observed data. In our view this restraint is an additional benefit. A more extensive analysis of the geological map of Abyssinia would involve orographic and topographic details which would carry us too far.

" It's most desirable that the two staff captains, Messrs. Galinier and Ferret, properly print their interesting *geological map of the Tigré and Samen*, and that M. Rivière also could obtain from its publication a reward for the care that he gave to bring such an important work to a fine conclusion.

ORNITHOLOGY.

"Our two countrymen hardly could have hoped to make any real ornithological discoveries in a country previously visited by M. Rüppell, one of Germany's most famous zoologists. Nevertheless, Messrs. Galinier and Ferret ought to be congratulated on carefully collecting a large number of birds and bringing them back in good condition. The collection was turned over to Messrs. Guérin-Méneville and de Lafresnaye who catalogued it. The work of these two naturalists, performed with great care and precision, is purely restricted to the differences and similarities among the various birds entrusted to them for study. Only a few species are named. The authors of the catalogue characterized others either by a Latin phrase or in more detail. It's remarkable how many species had eluded the zealous and capable explorer of Abyssinia, as well as ideas that don't appear in M. Rüppell's writings. Several plates were presented to the Commission; they were beautifully rendered.

"We hope that when this part of the expedition's work is published, Messrs. Galinier and Ferret won't forget to fill in the information that they had to have gathered about the habits and behaviors of the birds in their collection. Nothing could replace these details; nothing could substitute for the notes written on the spot by our two travelers.

ENTOMOLOGY.

"Messrs. Galinier and Ferret consistently paid attention

to everything that might contribute to the advancement of different areas of human knowledge. The collection of insects of Abyssinia that the Commission had before it is most remarkable. Furthermore, it already had been thoroughly studied by Messrs. Marchal, Reich, and Spinola. M. Marchal devoted all of his attention to the description of the orthoptera and lepidoptera. M. Reich took charge of the coleoptera, and with the cooperation of M. the Marquis de Spinola, the hemiptera and heminoptera [*Translator's note*: possibly hymenoptera]. The work identified one hundred and forty entirely new species. The description of each one is complete and systematic in Latin and in French. The genera to which they belong do not differ, except in rare instances, from those adopted by the most modern and eminent entomologists. The figures, well-drawn and precisely colored, will create an interesting and rewarding atlas for naturalists to consult.

"Here again we must call attention to the almost complete absence of observations on the habits and behavior of the insects of Abyssinia, were we not convinced that Messrs. Galinier and Ferret have in their notes the material to fill this in. We feel absolutely certain that our two travelers would have paid attention to such an interesting part of natural history. We wish to mention the active measures that they took together with Abyssinians of all classes with a view to discovering the precise natural history of the *infamous Bruce's fly*. The Scottish explorer [*Translator's note*: James Bruce (1730-1794) explored North Africa and Ethiopia] said the following about this (probably fictitious) insect [*see additional translator's note below*]: "It must be confessed that the huge monsters living in the forests of Abyssinia, the elephant and the rhinoceros, are much less dreadful than the fly. What could I say about their view of this insect? Its droning spreads more agitation and fear among humans and animals than could

all of the savage beasts in these countries, even if there were twice as many of them as there are now." [*Translator's note*: the microbiologist Sir David Bruce (1851-1931) discovered that the tsetse fly, certainly not fictitious, transmits African sleeping sickness. The parasite that causes the disease, *Trypanosoma brucei*, was named after him.]

BOTANY.

"To judge Messrs. Galinier and Ferret's expedition's contribution to botany, the Commission had before it only a single note from the two travelers plus a few comments from M. Raffeneau-Delile.

"The note said that their original collection amounted to six hundred plants. But after a hostile confrontation on the *Tarenta* and the plunder that followed it, the collection was reduced to two hundred and fifty species. The learned professor from Montpellier guessed that sixty among them would represent entirely new species.

"Messrs. Galinier and Ferret paid particular attention to plants that the inhabitants of *Tigré* and *Samen* found useful.

"According to their local names, these plants are as follows:

"1° The *gotho*, a new species of sycamore to which Messrs. Galinier and Ferret gave the name *Ficus panificus,* because its pulverized bark is used for making bread.

"2° *A new species of coffee tree* that has very good fruit and is highly valued even by the Arabs. There is a lot of trade in this coffee in Abyssinia. It's sold by the inhabitants at different ports on the west coast of the Red Sea, shipped from there to Arabia, and subsequently sold around the world under the magical name of Mocha coffee.

"3° The *endot*, a small saponaceous tree, 1^m 3 to 1^m 6 high. The fruit of the endot, when dried in the sun, pulverized in a wooden mortar, and suspended in water, is used

for washing laundry. This suspension lathers like European soap. It cleans fabrics very well without harming colors. This small tree would grow very well in Algeria.

"4° *A shrub* whose branches are infused in a mixture of water and honey. The combination, after heating for two days over a fire or in the sun, makes an extremely pleasant mead drink.

"5° The *belbelta*. Its seeds crushed and boiled in water make a very powerful remedy against tapeworm, which afflicts almost all Abyssinians, men, women, and children. They use the belbelta seeds as successfully as they do the cosso, several samples of which Messrs. Galinier and Ferret also have brought back.

"6° The *tombough.* Its pulverized bark likewise works against tapeworm.

"7° The *oungoullé*. The fruit of the oungoullé when pulverized and dissolved in cow's urine is used to remove hair from ox hide.

"8° A plant species whose bulb is eaten like a fruit. It is highly valued by the Abyssinians.

"9° The *karos.* The leaves and bark of the karos, mixed with the leaves and bark of a small tree known locally as *amba-ambo,* are used to dye leather a very beautiful red.

"10° A small shrub known as *tchaad* is different from the one in Yemen. Tchaad leaves are quite a good substitute for tea and are highly stimulating.

"11° A new species of *indigo* that Messrs. Galinier and Ferret found in the country of the Chohos. It has a very rich color.

"12° Lastly, several specimens of trees, unknown in our countries, with majestic bearing, an extremely large trunk and very hard wood. The *ayé*, for example,

requires the most highly tempered tools to work it. It could be very useful for making teeth for brake wheels.

"M. Raffeneau-Delile dedicated himself to correctly name all the plants in Messrs. Galinier and Ferret's collection. This work is nearing completion. Twenty selected plants have been illustrated with extraordinary perfection. entrusted to his inspection, M. Delile was able to solve a number of interesting problems among the species temporarily turned over to him for study. For example, his observations will supplement the natural history of gramineous *Poa abyssinica* that has seeds so small that they could be mistaken for fine sand.

"No country in the world is better for research on botanical geography than Abyssinia. When they crossed its graded plateaus and climbed to the tops of its mountains, Messrs. Galinier and Ferret always noted the elevation and approximate temperature of the place where they had gathered a plant for their collection. With barometer in hand, these untiring explorers also established the upper limits of vegetation for seed plants, shrubs and trees. The latter included acacias, junipers, colqualls, sycamores, date trees, baobabs, tamarinds, etc.

"The seeds that Messrs. Galinier and Ferret brought back to France were lost in a shipwreck. Let's hope that this misfortune soon will be put right and that a second mission, already arranged by the two travelers before they left Abyssinia, this time will return safely.

"The Commission has made certain that all the different collections carefully assembled in Abyssinia by Messrs. Galinier and Ferret will be scrupulously placed in the Museum of Natural History [*Translator's note*: at the Jardin des Plantes, Paris]. This is not a superfluous comment at a time when they say that so many people forget that objects collected during travels at government expense

belong to the state. However, all due care must be taken to reimburse expenses that the purchases may have entailed. If future commissions of the Academy pay scrupulous and strict attention to this important point, there will be an end to pilfering very fine collections in some of our ports for the benefit of profiteers or rich merchants. Unique objects of inestimable scientific value no longer will disappear from French ships to go directly into private hands or even abroad. Our national museum at last will remain the foremost one in Europe.

GENERAL CONCLUSIONS.

"All of the chapters in the report that the Academy has just agreed to read offer manifest proof of the courage, enlightened enthusiasm, and enterprising spirit that emboldened Messrs. Galinier and Ferret during their travels in Abyssinia. Almost always in very difficult circumstances these young officers have done everything that science could have expected of them. We deeply regret that our procedures don't allow us to directly request the compensation that our two fearless travelers fully deserve. At least we are certain that the Academy would fulfill its mission well if it promises that this novel, interesting, useful, and painstaking work be placed in public view as quickly as possible."

The conclusions of this report have been approved.

SUMMARY of Chapter I.

Departure from Marseille -- The Prince of Wurtemberg -- M. Horace Vernet -- Malta; City of Valletta. -- Scyra, its current prosperity. -- The advantages of steamship travel. -- Alexandria -- History of Alexandria -- The ruins -- The modern city. -- Its growth under Mohammed Ali. -- A visit to the Viceroy. -- Departure for Cairo. -- The canal of Mahmoudiya. -- The Nile. -- Traveling down the Nile. -- Arrival in Cairo.

JOURNEY TO

ABYSSINIA

CHAPTER ONE.

It was October 21, 1839. Smoke from the steamboat *le Léonidas* briskly rose skyward and the ship bounded over the waves as it left port. "Farewell, Marseille!" cried the sailors. "Farewell, sad winter" cried almost all the passengers who were fleeing to Italy and to its gentle climate like shivering swallows. And we proclaimed "Farewell, lovely country of France". Three of us were then on our way to Abyssinia. One of us broke into tears watching his native land recede with the uncertain foreboding of a child who never would embrace his mother again. M. Jules Rouget would never again return home to his motherland.

In fine company such as ours we cheerfully let the time go by without counting the days. This was our first ocean voyage and we weren't bored. Imagine how wonderful it was! Finally, after seeing the Italian coast on the horizon and landing at Leghorn and at Civita-Vecchia just to pick up and deliver mail, we arrived on the 27th in the harbor of Malta. Since we didn't have to set out again for a couple of days and had a day to relax, we took the time to visit the city of Valletta and its surroundings. This is where the West ends and the Orient begins. Customs, dress, architecture, all share features of the different civilizations of Europe and Africa. The town is situated on a peninsula that separates the main port from the quarantine port. It is wealthy and very elegantly built. The streets are broad, well paved, and perfectly aligned. The houses all appear clean and tidy outside, a sign of well being inside. Malta is a beautiful city. Considering the size of its port, its huge fortifications, and its central position between Europe, Africa, and Asia and its commercial and military importance, it is a great pity

that such an outstanding place no longer remains under our control [*Translator's note*: Britain captured Malta from Napoleon in 1800. It finally gained independence in 1964].

On the 28th we boarded on a new French steamer that was to take us to Scyra [*Translator's note*: now Skyros or Skiros, an island in the Aegean Sea]. Not a cloud in the sky, not a ripple on the sea; it was that way for the entire crossing. We cleared Cape Matapan [*Translator's note*: also called Taínaron] within gunshot range, and we passed so close to the Cyclades that we could discern the houses and even their inhabitants. Our ship skimmed the surface of the waves like a swallow, and at the end of the third day it entered the port of Scyra.

Scyra is both an island and a town. The island, situated within the Greek archipelago, owes its current prosperity principally to our steamships that gather there to transfer travelers coming from Athens, Constantinople, and Egypt. The town is built like an amphitheater on the slope of a very high hill that goes right down to the sea. Seen from the outside, Scyra offers the observer a charming and very picturesque view of tiers of terraced houses dazzling white in the sunshine. But, like all the other towns in the Orient, it loses a lot of its enchantment when one goes inside. Be that as it may, we had no complaints about the hospitality.

We went to visit the Governor, who offered us the pipe and sherbet, the two-fold courtesy of the Orient. But that alone wasn't enough to satisfy us; we also were quite happy to feel our feet firmly on the ground. Prince Paul de Wurtemberg and M. Horace Vernet also shared this pleasant experience. We wanted to prolong it, and we planned to have supper together at a hotel. We were shown the best one in town. Should we add that the best hotel in town seemed rather like a mediocre inn? We won't even mention that. We came to terms with it through an excellent Syracuse wine.

Morning found us once again on the open sea. From now on there were no more stops before our landing in Egypt. The crossing ended as it began, in fine weather. The days seemed almost too beautiful. The sea and the sky scorched us as though we were between two suns, but the beauty of the nights amply compensated for the daytime. A cool breeze came up at nightfall. At that time we went up on the bridge where we spent long quiet hours resting, caressed by the clear and gentle breeze, alone in the calm and the vastness of space with only the friendly stars in sight

and hearing nothing but the regular sound of the engine and the paddle wheels forcefully striking the sea, leaving behind a sparkling wake of phosphorescent light. Long-live steamship travel! It's especially during moments when nature slumbers unconcerned that one is so grateful for the benefits of Watt's invention and Papin's discovery. If the wind dies a sailing ship would be becalmed on an idle sea. In such a case the ancient Greeks had only two resources: Agamemnon sacrificed his daughter; Ulysses, better advised and more fortunate, borrowed bags of wind from Aeolus. The steamship would have saved Iphigenia. The steamship easily would have dispensed with Aeolus and his winds. It flies like a bird with folded wings at its sides and swiftly covers great distances. It knows when to depart and also when to arrive, and it gets there exactly on time. At Marseille they told us that we will be in sight of Alexandria on November 4th. We went up on the bridge on November 4th earlier than usual, and as soon as the sun rose we indeed saw Egypt. Egypt lay close by right in front of us! Already countless tops of a forest of masts appeared above the waves gradually rising up as we approached.

We soon beheld a vast multitude of vessels and ships. It was the Turkish fleet; the same fleet that the infamous betrayal of the pasha of Constantinople had joined to that of the viceroy of Egypt. In 1839 it was the talk of all the councils of Europe; for us, curious travelers just entering the port of Alexandria, it was a magnificent spectacle. We could not view these huge ships, these tremendous floating fortresses, the endless arrays of masts, rigging, flags, and cannons, all of this preparation for war, the imposing display of man's proficiency for destruction without emotions touched with some pride. But our steamboat, lacking eyes, took a pilot on board who was to steer us into the port. One dares not risk passing the rocks sheltering Alexandria like a rampart wall without an experienced guide.

We complain about messengers and street-porters in our European towns, but that's only because we don't know the donkey-drivers of the Orient. Suffice it to say that in Egypt the donkey, that placid saddle-beast, the Lord's creation, replaces the horse-cab and the hackney-coach. We had hardly set foot on land when we were bombarded by donkey-drivers all around us. The poor donkeys held back and followed their masters, but the drivers pushed and yelled, rivaling each another.

Some of them grabbed us by the arms, others by the legs, and yet others clung to our clothes, creasing all the seams. In another moment we would have been suffocated among the herd. This reception looked very much like an attack, and soon we had to resort to legitimate self-defense. The donkey drivers hollered as though they were deaf and we retaliated. But it seemed that this was nothing new to them. Blows from our sticks rained down but hit no one. The scoundrels dodged with amazing agility; they threw themselves belly-down or moved more nimbly than grass snakes alongside their animals. There was a whistle in the air; they got up right away and clung to our clothes with renewed fervor. When it was clear that force would not avail, we each mounted the first donkey we found and we felt ourselves carried off without knowing where we were being taken and without having said where we wanted to go. Anyway, how could that have helped, since we didn't know our drivers' language and they didn't know ours? They didn't seem to pay the least attention to us. They made a valiant effort to take revenge on their donkeys for the blows that we had landed on them.

Galloping along and trusting them as we had to by the grace of God, we passed through narrow twisted alleys and wretched marketplaces and got to the free district. We weren't told where we were going and furthermore weren't asked whether we had got there. Our donkeys of course pulled up in front of a French hotel where at least we were at home with the language and it must be said with the enjoyment of its cuisine. Our luggage still remained on the dock. Our barometers were at great risk for being broken en route if the case that held them were not carried carefully. Fortunately it arrived intact along with the rest of our belongings under the direction of a consular official. We gratefully acknowledged Alexandria's hospitality.

Alexandria is the most modern city in the ancient land of Egypt, where the origins of cities go back as far as that of the whole world. Nevertheless it preserves the longest continuous history, having outlived its ruins. In the times of the Pharaohs and the Persians there were only a few hovels in a miserable village called Racotis on the site of this famous city. While visiting the northern coast of his new conquest, Alexander the Great was attracted by the location of the village.

He leveled the hovels and laid the foundations of a city. That city, successor to the Macedonian hero, today bears the glorious name of its founder: it is called Alexandria.

"Alexander", said Napoleon, "is more renowned for having founded Alexandria and for planning to move his seat of empire there than he was for his most brilliant victories. This city should have been the capital of the world. It is situated between Asia and Africa within reach of the Indies and Europe. Its port is the only anchorage along five hundred leagues of coastline extending from Tunis, the former Carthage, as far as Alexandretta [*Translator's note*: now Ískenderun, a Turkish port in the eastern Mediterranean]. It's at one of the mouths of the Nile. All the fleets in the universe could anchor there, and inside the old port they are protected from any attack."

Under the dynasty of the Lagides that ruled Egypt after the death of the Macedonian, Alexandria shone with resplendent glory and next to Rome was the most flourishing city on earth. Memphis, Thebes, and Heliopolis graced it with their remains. All the arts, all of the sciences converged there. Greek philosophy was newly introduced to the mysteries of the Orient. A wealth of institutions, monuments and commercial prosperity, like an inexhaustible wellspring, nourished the splendor of this glorious city.

India shipped its goods there via the Red Sea as did Europe across the Mediterranean. Caravans, those peaceful armies safely crossing the desert, regularly brought lavish goods from merchants in the interior of Africa.

Full of reflections on antiquity, we couldn't wait until the following day to explore the layout of Alexander's city. Sand had covered all of it and transformed a city into a desert. Were it not for the monuments that remained standing, or the still visible remains like ruins of a shipwreck in the midst of this motionless sea, no one would believe that in this barren solitude there once rose a flourishing city.

We viewed the famous island of Pharos, now connected to the mainland by a jetty separating the old port from the new. We saw Cleopatra's needles, those great obelisks of pink granite that the queen had brought from Memphis to decorate her capital. We saw the necropolis, the city of the dead, the underground city, and lastly the column attributed to Pompey, most remarkable for its height and elegance. Unfortunately its pedestal has sustained damage over time. If proper care isn't taken, this precious monolith will tumble down and shatter along with its foundation.

Today Pompey's column serves as a landmark for caravans and for ships because it dominates the minarets of the town and all the surrounding peaks. But its original purpose remains unknown. Among those who write about it, some believe that it was erected in honor of Diocletian. Others, Marshal Duc de Raguse for example, guess that it was built to honor Alexander. Time will tell, as they say, and new evidence certainly will emerge to support one opinion or the other. Let's hope that science won't be permanently divided on this topic, and that information based on unanimous agreement will soon reveal the true origin of Pompey's column.

However it turns out, archaeologists may still remain unsure but the traveler can easily forget the contentious disputes in the presence of these imposing ruins. He is astonished, his heart is stirred, and his soul is moved with admiration and sadness at the same time. He experiences an indescribable combination of images of power and images of death. The thought seems to grow with the expanse of time and the passage of centuries. We walk upon the ashes of people who were the first among nations, our forefathers in the riches of the arts, letters and sciences. We are moved by their relics and we contemplate them with reverence.

A lone Egyptian walks by or stops, not understanding the curiosity of the westerners. He himself knows nothing of his history and is unmindful of the legacy of his race. We must not blame him nor hold anything against him. This desert, so full of memories, also holds much misery for him.

Like Alexander and Napoleon, the new conqueror of Egypt is aware of Alexandria's importance. His continuous efforts are directed toward eliminating the vestiges of destruction, the scars of centuries of barbarism. The Turks had left the new port buried in sand, the only place where European ships had been allowed to enter. The old port, which they had opened only to Muslims, also through unfortunate neglect had begun to be obstructed, especially due to their peculiar habit of discarding ballast from their ships into the water. Mohammed Ali [*Translator's note:* the Viceroy of Egypt] with enormous effort sounded and cleared the two ports. At the present time either the one port or the other offers full security, free access, and as easy an abode as man could provide from the unrestrained force of nature. The Turks made no effort to protect the city against attack. With the profound disregard typical of true sons of the prophet, they let the walls that had existed before their conquest fall down without taking care to rebuild them.

But the viceroy, knowing that this location was the key to military control of Egypt, brought in a French officer, Colonel Gallis, who surrounded it with fortifications. Now that the work has been completed, Alexandria is prepared to vigorously resist the strongest of invading forces. At the time of the French expedition its population amounted to only eight thousand souls. Today it has achieved the substantial figure of sixty thousand.

European trade was successfully established in this town and grew considerably after several years. Thanks to the protection that the viceroy offered to Europeans, the commercial free district enlarged further each day. In France or in England consulates are located in an area notable for the order and richness of its architecture. A French traveler would be at home here. He would find cafés, hotels, a pharmaceutical laboratory, a tailor's shop, a millinery store, and lastly a reading room with all the comfort and good taste of our own country. By contrast, just outside the free district the Orient reappears with its narrow unpaved streets and its miserable-looking houses of questionable cleanliness. But the proximity of European civilization is pushing it back toward the desert,

and our European customs soon will replace those of the Alexandrians.

Understandably we had a keen desire to see Egypt's benefactor, the one to whom Alexandria owes its peace and revived prosperity. We expressed this wish to the consul general of France, and M. Cochelet was very willing to do us the honor of presenting us to His Highness. That was the very day that M. Horace Vernet had an audience with the Viceroy. We went to the palace with him and were introduced together in the reception hall. The hall was quite plain and unpretentious. There was no furniture other than a divan of crimson velvet that extended along the four walls. The great pasha was seated in Turkish fashion with his legs crossed in the farthest corner from the door that we entered. Several of his bodyguards, keeping a certain distance, stood respectfully in a semicircle around him. His Highness' interpreter also stood in front of him, incessantly waving a feather fan to brush away the flies.

As soon as we appeared in the hall Mohammed Ali greeted us most cordially, seated us on the divan next to him, and ordered coffee for us.

The officers carried out their master's order. The interpreter explained to him the purpose of our visit. As soon as he had finished the viceroy praised our projects and assured us that he would protect us throughout his kingdom. In fact, several days later we received a decree that directed all agents of his administration, whether in Egypt or outside, to receive us in good faith, to treat us with distinction, and to assist us as often as necessary for the success of our enterprise.

As to our distinguished traveling companion, he spoke for a long time with the pasha, who must have been charmed by his intellect and wit, if the interpreter had faithfully reproduced the spirited manner and the refined subtlety of his conversation. The Egyptians had just won their famous victory at Nézib [*Translator's note*: i.e. Nizip. Mohammad Ali defeated the Turkish sultan at Nizip in southeastern Turkey in 1839]. The talk naturally turned to the defeat of the Turks. The viceroy seemed curious to know what impression the success of his forces had made on us. He expressed deep satisfaction when he learned that the news had been well received and was almost universally popular, and that France, fond of glory, extended its most sincere wishes for the success of his major goals. "I know", he replied, "I know that the French enthusiastically support me,

and as for me, I love that country, I value it, I admire it. But it seems to me that its government isn't dealing with me as kindly as it should. They want me to turn over the fleet!...Be assured that it could not be more secure than it is in my port." He emphasized every word to make its meaning felt and resentfully eyed our consul general. His Highness spoke to us further about Algeria and highly praised the courage of our soldiers. But our benevolence did not similarly meet with his approval. "Your generosity", the viceroy told us, "lets you lose the advantages that you have gained in war. With too much kindness you never will succeed in subduing the peoples of Africa."

We readily report the opinion of a man who himself had subdued his neighbors the Arabs, and who has kept the desert subjugated under the rule of a strict police force. Mohammed Ali's view deserves consideration by our statesmen and international experts. France possesses a magnanimous heart, but it's often deceived by its high-minded ideals and doesn't always notice that it squanders its own soldiers' blood to spare that of its enemies. Following our audience with the viceroy,

we ourselves recognized the correctness of his views, and we affirm today, having lived among people entirely similar to the Algerian races, that even though one must never deviate from justice, at the same time one must not appear to forgo the use of force to contain and to govern them.

While the conversation was going on, we had a chance to observe the viceroy himself. Mohammed Ali is a man of average height. He has a lively complexion and small piercing black eyes. His open expression offers an agreeable mixture of refinement and good nature. Simply dressed, he has only one indulgence, or rather one affectation. He seemingly is devoted to taking care of his beautiful long beard, softer than silk and whiter than silver. Nevertheless, when he received us his headdress was a simple tarboosh without a turban. His clothes had no conspicuous insignia and were no different than those of Turks of the leisure class. Mohammed Ali did not display the ostentation of a ruler. He was proud to be a conqueror and a sovereign. He reflected on his reputation and he loved the honor. He wished that M. Vernet had painted the battle of Nézib. But our celebrated artist didn't want to undertake a project for the viceroy. His brush belonged to France. He had dedicated it to our national triumphs,

Our courageous army in Africa with its new accomplishments gave him material every day for a new masterpiece.

We were sorry to leave His Highness. His pleasant manner, his kindness, even his wit, had touched our hearts. But the time had come to take leave of the viceroy. His interpreter, who had the rank of colonel, concluded by honoring us with a tour of the palace. We visited the apartments, we looked at the furniture, rich and in good taste, purchased either in France or in England, but unquestionably superfluous in a country where a divan is sufficient for almost all purposes. In passing we noticed a table set for a meal indicating a sort of dining room. The table was low, barely raised above the floor, which reminded us that the guests were not used to sitting on chairs. However, it must be said that something about the table setting seemed to be quite European - we wish to mention a certain number of sealed bottles. Sealed bottles, oh Mohammed! In the home of those who rule your descendants! Sealed bottles in spite of your Koran, oh Prophet! See what happens to your true believers when they come in contact with infidels! They begin by valuing our arts and our sciences, and they end up enjoying our Bordeaux wine.

We had seen the viceroy, we had received his directive, and we prepared to leave for Cairo. A private company had just started up a postal boat along the Mahmudiya Canal. We naturally chose this route.

The Mahmudiya Canal is the work of the pasha, who, when he opened it, made a tremendous benefit available for commerce. Likewise for Alexandria; hemmed in as it is by the desert on the south and the sea on the north, it could not exist without drinkable water, without this canal that channels water from the Nile to it and connects it to the rest of Egypt. Formerly the vast cisterns inside the town had been filled each year by a very narrow canal that almost always dried up after the rainy season. Egypt's products for export had to go down the Nile to the sea and then by sea to Alexandria. But that navigation always was difficult and often dangerous due to sandbars at the estuary of the river. To overcome this problem Mohammed Ali decided to dig a navigable canal between the Nile and Alexandria. With clever flattery he named it Mahmudiya in honor of the sultan Mahmoud. The powerful subordinate had founded the viceroyalty of Egypt and compensated his master with respect for what he had taken in power.

Mohammed Ali had devised a fine plan. It's regrettable that the engineers in charge of the project hadn't better fulfilled his designs. They should have placed the water outlet above Atfeh so that the canal would be sufficiently filled and navigable throughout the year. They also ought to have followed a straight line as much as possible to shorten its distance. And still that wasn't all. They overlooked the most important consideration: to connect the canal with locks to the Nile at one end and to the sea at the other end. In that way barges loaded in Upper Egypt could have arrived at the port in Alexandria and unloaded their cargoes onto ships that then would transport them either to Europe or to another part of the world. The absence of locks is very detrimental to commerce. As it stands now, as soon as the barges come down from the Nile to Atfeh they have to be unloaded to transfer their merchandise onto canal barges and then do it again when the canal barges have arrived in Alexandria. Double work, double expense; and the shipping costs increase accordingly. However, since our return to France an official of the pasha informed us that a lock had just been built, and that it allows water to flow from the Nile into the Mahmudiya.

To their credit, the problems that had so astonished us finally had been understood. Surely they won't delay making the same improvement at the mouth of the canal, and commercial barges will travel freely from Upper Egypt down to the port of Alexandria.

We left Alexandria at nine in the morning and arrived at Atfeh at eight in the evening. It would be a mistake to think of the banks of the Mahmudiya as pleasant and shaded with greenery. Here and there one can spot sparse clumps of trees on mostly barren ground. Nevertheless, from time to time there were new farms surrounded by cultivated fields that enlivened the emptiness of the landscape. These are the blessings of the canal. In Egypt water produces miracles. Pour some water on sand and almost instantly wonderful vegetation arises, nurtured almost magically by the heat of the sun. That is why the wisest rulers of Egypt always made the distribution of the waters of the Nile, their only source for irrigating the countryside, an object of their constant concern. Clearly Mohammed Ali remained faithful to this ruling tradition. Unfortunately poverty didn't disappear immediately from his domain. As we proceeded we passed by impoverished villages

of wretched-looking shanties whose only opening was the door. Vermin consumes the people there, and people fatten up the vermin. Try to explain to the *fellah* (farmer) that such filth degrades and destroys him. He is astonished. He looks resignedly at the vermin that swarm on his flesh and gravely replies: it's God's will. With this single phrase he reconciles himself to his suffering and submits to his enduring distress without a struggle.

During our passage along the Mahmudiya we occasionally saw on our left that strange phenomenon that so completely deceives the eye called a mirage. At the time of the French expedition the effects of a mirage had not yet been described. Our sunburned soldiers, exhausted from hard marches across the sands, bending under the weight of their arms, their brows soaked with sweat and their tongues dry, suddenly saw before them houses covered in shade and palm trees swaying in the wind whose images were reflected on sheets of transparent water. The foot soldier carried his pack more lightly and tossed it from his shoulder, already revived by the hope that the desert was behind him. A sweet illusion so close to disenchantment! They moved forward to reach that much-desired oasis.

But the oasis retreated endlessly with the horizon. It faded and finally disappeared, leaving in its place only solitude, barrenness and sand. Science later explained the causes of this singular illusion; we don't need to review that work which is now common knowledge. But we can state that the illusion is perfect. Familiar as we were with the effects of a mirage and thoroughly informed about the areas that we were crossing, it still was hard for us to deny what we saw. At every moment we could not believe that this spectacle, so striking, so luminous, so perfect, was simply an illusion, an enchantment.

We still hadn't recovered from our amazement when we arrived at Atfeh. Atfeh was merely a village that the Mahmudiya had turned into a town. From the time that the canal opened the village achieved some importance. It was there, as we had said, that merchandise from Upper Egypt was unloaded for transport to Alexandria. The principal merchants maintained their counting houses there, and travelers were obliged to wait quite a long time to change barges. As a result stores and markets gave the village movement and a life. At Atfeh we saw the Nile for the first time, that sacred river that the ancients had revered as a god.

From it alone Egypt received its fertility and its life. Without it this fine country, scorched by the sun and lacking rain, would have been no different than the deserts surrounding it.

The following day we went up the river. Along the Mahmudiya we still saw desert. Along the Nile we saw one vast cultivated and productive country. The villages are carefully built. The terraced houses, the minarets of mosques rising among the graceful parasols of elegant palm trees, from a distance offer the European traveler a spectacle as picturesque as it is exotic.

On the first day a very brisk wind filled our sails. The next morning it was in a less obliging mood, and in the end it left us stranded. That was a distressing turn of events. But our boatmen didn't seem to mind. Three or four of them went ashore. A rope was attached to the boat, and they towed us against the current for at least six hours. These Nile boatmen must be men of steel. They sang to march in time. They laughed as though this hard labor was no problem for them. When a canal appeared in front of them, they wrapped their clothing around their heads,

swam across, and then resumed towing without a complaint. We've often read that people of tropical countries do not have the same levels of energy and vigor as people of colder countries. This claim is quite flattering to our own vanity. But we're obliged to say that on this very day, right in front of us, it has been flatly contradicted and it seems at most to be a self-serving European prejudice.

Arriving at the Belly of the Cow, i.e. the apex of the delta, we noticed three triangular points like three mountain peaks on the horizon. These were the pyramids. They recalled the memorable victory of our forces over the Mamelukes [*Translator's note:* a warrior class ruling Egypt that was defeated by Napoleon in 1798 and finally by Mohammad Ali in 1811]. We weren't the only ones to retain the memory of this triumph. All of Egypt remembers the French expedition. We found everywhere an enduring high opinion of our power and our good will. We must not let die the reputation that our heroes acquired and for which they paid the highest price with their blood. Republican France has sown the first seeds of modern civilization in the soil of Egypt after long centuries of barbarism. May the new France set its hand to the task drawn up by our forefathers to assist a great people,

the eldest child of the Greek and Roman world, to cast off its long lethargy. Egypt in gratitude will praise our name along with its respect and admiration!

Three days after leaving Atfeh we arrived in Cairo.

SUMMARY of Chapter II.

Description of Cairo: streets, houses, windows, apartments. -- The Kalig, districts, dogs, remarkable squares of Cairo. -- Beautification of Ezbekiyya Square; population of Cairo. -- Its appearance. -- A Santon. -- Slave market. -- The Citadel, massacre of the Mamelukes. -- Contrast between Oriental and European customs. -- Holiday celebrating the Prophet's birthday. -- Easy life of the Orientals. -- Steam baths. -- Oriental society. -- Women of the harem; their submission to their master; their dress inside the harem and outside. -- Eunuchs. -- *Almeés*. -- The Bee Dance. -- *Kawals*.

CHAPTER II.

Cairo is situated at the foot of the Moqattam hills about 800 meters east of the Nile. It's the most important city in the Ottoman empire next to Constantinople. It is 4,500 meters long by 2,500 wide. It's also Egypt's city of monuments. At every step there is a structure with a special quality: okels, bazaars, gates, public fountains, and especially the mosques; mosques of imposing architecture that astonish the eye with their slender elegant minarets and the bold construction of their vast domes. The marble and stone, the mosaics, the painted and carved ornamentation attest to the refined taste and creative imagination of the Arabs, those ingenious artists and inspired sculptors

who long ago had endowed us in Europe with the marvel of the Alhambra.

For all that, Cairo is not a beautiful city. There are no uniform squares, no broad, aligned streets that display beautiful architecture. In Cairo, as in all of the Orient, the streets are narrow and twisted, cut off by alleys and dead ends that criss-cross like tangled paths in a labyrinth. No pavement, no more than there had been under Philippe-Auguste [*Translator's note*: Philip II (1165-1223), king of France, who paved the main streets of Paris]. There are streets where two people can't pass each other comfortably. Sometimes even a horseman has to dismount carefully to avoid scraping his legs along the walls on both sides. The houses are two or three stories high ending in a paved or clay terrace. They're made of earth, brick, or of stone obtained from Moqattam. From the outside they look like prisons; but they are the castles where the Cairo resident puts his well-being, his peace of mind, out of harm's way. They are shrouded in mystery. Closed and silent, they let in little daylight from the street and the windows barely open. Nor are there any window panes. The windows close with a blind called a *moucharaby* [*Translator's note*: a wooden grillwork that permits a viewer inside to see through without being seen.]. In a poor home it's a very simple wooden lattice, but in a wealthy one it's elegantly worked with delicate carving.

Daylight enters the house through the interior courtyard, but a row of sycamores placed in front of the sunlight dims its rays and allows only softer light to get through. Usually a higher floor projects over the one below it. So it often happens that houses opposite one another touch at the top, block the sunlight, and keep the street in shade. Indoors the architect's similar plans withstand the atmosphere's ravaging heat and produce beneficial cooling. The apartments are huge and allow for ventilation on all sides, even through the ceiling that opens onto the terrace and lets in a northerly breeze. However there's no wallpaper, little furniture, just a mat or rug spread over the flagstones and a divan resting against the four walls of the room. The Arab has tried in vain to settle down and set up a permanent abode. He always recalls his origins. His forefathers had been nomads and he is their child. His home always looks as though it were a tent set up for one day and will be folded up the following morning.

In thinking about it further, the mind of the nomad is the improvident mind *par excellence*. A canal called the Kalig extends through the entire length of Cairo. It would seem natural that spacious quays could have been built along the canal

sufficient to circulate air through the town and contribute to its healthfulness and to its appeal. Nobody thought of it. Houses crowd together along its banks so that the Kalig is closed in. As the bridges support one or two stories, it's quite hard to see the canal even when crossing it. During the flood season the Kalig amply satisfies the needs of the town. But during the dry season water has to be brought from the Nile and it's very costly. And that's not all. At that time the canal bed gives off putrid emissions and fevers spread with the foul vapors into nearby neighborhoods.

The city is divided into fifty-three districts; sixteen of them are major ones. Several of them consist of small distinct communities inhabited by people of the same group. There is a Coptic quarter, a Jewish quarter, a Frankish quarter, etc., etc. Even dogs, which would seem rather strange, are divided into packs. Each pack also has its own quarter. The dogs in one quarter cannot go into another one without arousing well-founded suspicion among those already established there. The entire colony rises up and bares its teeth at the intruder.

Each quarter is separated from its neighbor by a large gate that is shut every evening

and guarded by trustworthy *barbarins.* Thanks to these precautions and to the *barbarins,* perhaps even to the presence of the dogs, but especially to the vigilant administration of Mohammed Ali, Cairo is very secure. No armed robberies, none of the crimes that are all too common in the capitals of Europe. Here the houses, even the shops, are protected from evildoers only by wooden locks that easily could be removed, and still one never hears about significant thefts. Cairo enjoys the advantage of public awareness. The police require only that all persons going out at night carry a lighted lantern. Anyone disobeying this rule would immediately be arrested and imprisoned overnight. But the police hardly have to suppress such oversights. As a rule right after nightfall very few people appear on the streets. Orientals are used to going to bed early and getting up early so that they can enjoy the cool air before the heat of the day.

The most notable squares in Cairo are those of the Ezbekiyya, Roumelieh, Birket-el-Fil, and Kara-Meidan. But the first one is the largest of all. Its area is about the same as the inner grounds of the Champ-de-Mars [*Translator's note*: the park next to the Eiffel Tower in Paris].

Only a few years ago the square was transformed into a giant lake when the Nile overflowed. The wealthy residents of Cairo went sailing on it in illuminated boats. The entire city celebrated. But after the Nile retreated to its riverbed, the square no longer was usable. It no longer could be traversed because of the unevenness of the terrain, and a noxious miasma contaminated the air all around. To correct the problem Mohammed Ali filled the swamp with earth removed from nearby hills. After the right level was reached, trees were planted that formed magnificent avenues where Europeans from the nearby quarter could enjoy a stroll late in the day. The Ezbekiyya still holds great historical memories for the French. The palace occupied by the general staff of the French army during its expedition is located there. Our guide showed us the place where the renowned Kléber [*Translator's note*: French general (1753-1800) in command of the French army in Cairo after Napoleon's departure; an avenue in Paris is named for him] was assassinated, and we sat reverently in the shade of two wonderful sycamore trees under which the conqueror of the pyramids [*Translator's note*: probably Napoleon] often rested after his famous accomplishments.

Cairo's population is an unusual mixture of Turks, Arabs, Copts, Jews, Armenians, Greeks, Nubians, and Europeans. The numbers are difficult to determine precisely in the absence of registries

of births and deaths; however we won't be far off by saying there are approximately 500,000 souls.

Around midday Cairo looks like a deserted city. The heat is insufferable. So the residents of Cairo surrender both heaven and earth to the sun. They hide indoors and remain motionless. But in the morning and evening the city comes very much alive. One might believe that its population is much larger than it really is, if one didn't know that this apparent abundance of people is due first of all the narrowness of the streets, and also that there are very few main connecting routes. This means that almost all pedestrians and businessmen must follow only three or four main thoroughfares. At the two times of day that we mentioned, this crowd, this collection of strange and varied costumes, these swarthy or black faces, this moving swarm surging through filthy, cluttered winding streets, through dark and grimy markets with buried treasures, make for a most gripping spectacle, a most original and picturesque scene. Here everything is jumbled together; contrasts next to each other don't surprise us. A dilapidated house propped up against a magnificent building. A splendidly attired Turk

haughtily elbows aside an Arab shabbily covered in rags. Women enveloped head-to-toe under robes of black silk that conceal their entire figure with only their eyes visible passing phantom-like among the tumultuous crowd. Close to us, men walking at a solemn pace, their bodies hidden under long robes and heads enveloped under immense turbans, beads in their right hands and a long cherry-wood pipe in their left. Further away there were stern-faced horsemen preceded by eager slaves miraculously parting the crowd with horsewhips, galloping donkeys that overturned everything in their path, and long rows of camels carrying Nile water in leather bags or heavy bales of merchandise. Stray dogs with no owners were everywhere and were being fed by everyone. For every twenty people there was a blind man and rarely a person with two perfectly healthy eyes. Cripples displayed their injuries to arouse public sympathy; magicians swallowing snakes, con-men eating stones and begging charity from the spectators so that they wouldn't starve, lower-class women carrying naked children perched on one shoulder;

merchants selling round flat rolls, shouting deafening cries. This whole mob, this complete scramble, all these looks, shapes, colors, even the shouts, plus the wretchedness, the misery, and the magnificence, astonishes, exhausts, entertains, enchants, fascinates and astounds.

There's nothing new, nothing strange, from the wonderful to the reprehensible. Passing in front of a mosque we see a sort of living creature, a misshapen wreck of a human being, sitting, or rather squatting, on the steps next to the door. This pitiful caricature of a man, this decrepit body devoid of any intellect, this cretin, this stupid, grubby crackpot is what they call a saint. A group of women crowd around him. What do they want? The same thing that all women of the Orient want: to rid themselves of the disgrace of barrenness and to take pride in becoming fertile. Well, but this idiot is a saint. If we believe that his soul is concealed in the shadows of his flesh, we're wrong. His soul had been carried to heaven like that of the Prophet, and his loathsome body is proof of his saintliness. Those whose bodies have touched him are blessed; the women who surround him wonder if some power will emerge from his garments for them. But let's move on.

Let's not find out where the desire for fertility will drive these poor believers. We'll turn aside for fear of witnessing some shameful spectacle, and let's remember that the ancient Greeks also demanded similar miracles from a god more brash than this pathetic saint. So let's move along....but our guide abruptly stops us and suggests that we go into the slave market. There we see children, women, old men covered only in shabby rags, who wait stupidly and listlessly for their purchasers whose chattel they will become. Many are Negroes, a few Abyssinians, but not one white slave. This last category of slaves disappeared almost entirely from the Egyptian market after the Russians entered the Caucuses. Previously the daughters of Georgians and Circassians, justly esteemed for their beauty and for their exceptional intelligence, populated the harems of dignitaries. Nowadays it would be hard to procure one even with payment in gold. In their absence, Abyssinian women now are valued for their gentleness and for their loyalty. A beautiful Abyssinian, and may God forgive us for mentioning this ungodly pricelist, a beautiful Abyssinian won't fetch less than five hundred francs and sometimes gets as much as a thousand.

It won't be hard to believe us when we say that

there is nothing sadder than the sight of a slave market. Our hearts were broken to see the the Lord's creations, who like us are imbued by Him with the breath of life, heirs as we are to His divine Testament, who are sold like beasts of burden or as merchandise. Our hearts were filled with enormous pity. We felt deeply that we were their brothers; that we needed to go to them and to approach them with words of kindness. It was consolation for us to honor their humanity that had been so debased, and by respecting them we maintained our own self-respect. These poor people seemed surprised to receive our warmhearted compassion. We gave them a few piasters, and they kissed our hands in gratitude. But the *gellab*, who already had given us a dirty look, rudely pushed them away. If he little understood the concern that his wretched merchandise had provoked in us, this odious merchant of his own brethren vaguely grasped that such concerns threatened his business and one day would destroy it. Would that it were so! But that moment was not yet at hand, and we withdrew broken-hearted. Our donkeys remained at the entrance to the market and we went to fetch them. But we were without words. In silence we traversed the arms market, the Souk el Selah,

where the mosque of Sultan Hassan stood close by. Our guides informed us that now we were approaching Roumelieh Square.

The citadel was in front of us. It is situated high up overlooking the city toward the southeast. But it itself is dominated by the Moqattam hills at the northern end of the Arabian range. To protect this vulnerable position, Mohammed-Ali built a square fort on the mountain with a tower for a redoubt. We were well aware that the natural site was expected to protect the fort and the tower from surprise attack and to make access to it difficult. However the construction seemed rather simple-minded given its importance, and we think that it would have been useful to develop it further.

When we arrived at the citadel on the edge of a high terrace, we beheld to our great surprise a superb panorama, the most grandiose ever created by the word of God in harmony with human endeavor. The Libyan Desert from which rise the pyramids of Giza formed the background for this extraordinary picture. Closer to us the swaying tops of a forest of palms contrasted with the barren wilderness. Cultivated lands spread a rich carpet over the ground,

while the river Nile, sinuous and resplendent, glistened like a ribbon of steel in the middle of a green cape. On our left rose Cairo's Old City. To our right, the Bulaq district, the two docks of the capital, and finally at our feet lay Cairo, its terraced houses, the thousand spires of its minarets, Roumelieh square, lively and animated, proudly displaying the mosque of Sultan Hassan, Egypt's most imposing mosque. Who knows how long we could have stayed gazing at this wonderful spectacle? But the guides never let such distractions interfere with the passage of time; our own, who could only experience enthusiasm when it was expressed by someone else, soon seemed tired of waiting for us, and we had to tear ourselves away from the terrace that we were enjoying so much.

Inside the citadel, the viceroy had combined establishments that were worth seeing: a cannon foundry, a printing office, a mint, vast workshops for manufacturing various pieces of equipment and harnesses required for the army. At the highest point were grouped the pasha's palace, the administrative offices, and the barracks. Additionally a mosque was built notable for its workmanship, but even more so for its materials.

The alabaster quarries once known to the ancients had been lost. They have been rediscovered, and Mohammed Ali is having numerous columns hewn there to adorn the house of prayer.

Joseph's well also is worth mentioning. It's a hundred and eighty feet deep and descends to the level of the Nile. It's divided almost equally into two parts that are not vertically parallel and form as it were two distinct wells. A very high, wide, gently sloping flight of stairs encircling the first well leads to the opening of the second. The steps are carved into the rock. A slight wall with openings on it's four inside surfaces protects curious observers from any danger of falling. At the foot of the stairs there is a pool fed by a system of water wheels that brings water up from the bottom of the second well. A similar system that is moved the same way by horses or oxen carries the water up from the pool to ground level where it's distributed within the citadel.

It was in the citadel that the tragedy of the bloody massacre of the Mamelukes played out. In Roumelieh square they showed us the place where one of them in a desperate effort attempted to break through the rampart with his horse. The horse died on the spot; as unbelievable as it may sound, the rider got up safe and sound

and, as the story goes, managed to escape death. Must we recall the story of this terrible slaughter? It was March 1, 1811. Toussoun Pasha, Mohammed Ali's son, having been named commander of the army of Arabia, was about to receive the *pelisse d'investiture* [*Translator's note*: a fur-trimmed cloak symbolizing ordination]. As were all civilian and military authorities, the Mamelukes were invited to enhance by their presence the splendor of this ceremony. They came without any misgivings. The viceroy received them graciously, lavishing them with respect and flattery. He offered them the pipe and coffee as is customary. A master of self-control, his face was serene but a tempest raged in his mind. His expression kept the secret well and it continued to remain calm while he gave the signal to begin. The order of the ceremony was planned. They began the march to arrive at the citadel in one group. But as soon as the Mamelukes were between the two walls enclosing the citadel, the gates closed. The soldiers in their turn deployed to make two walls, and these living barricades suddenly closed in and annihilated the Mamelukes. When Mohammed Ali was told that his orders had been carried out, there were four hundred and seventy Mameluke corpses in the courtyard of the citadel, and the pavement reeked with the stench of blood.

It must be said that this was a match between two fierce players. Life and death were at stake. If Mohammed Ali had allowed his army to leave without defeating the Mamelukes, the Mamelukes would have ruled Cairo and the viceroy's head would have fallen under the edge of the sword. Mohammed Ali prevented that in an unexpected way. He would have been the victim; but instead he was the executioner and saved Egypt along with himself, because from that moment on he could draft his plan without hindrance and work vigorously to restore his people. He undoubtedly set a good example; Mahmud [*Translator's note*: Mahmud II (1784-1839), Ottoman sultan] followed it. When Mahmud, like Mohammed Ali, aimed at the distinction of reforming his empire, he remembered March 1, 1811 and exterminated the Janissaries.

Let's not judge the massacre of the Mamelukes on the basis of our principles as Christians and as people of the West. We're not talking here about France, free and bountiful, a land of law and national honor. This is Egypt and the Orient, where might makes right and honor belongs only to the victorious. Mohammed Ali had just reduced his enemies to litter under his horses' hooves when the sheiks gathered in haste to congratulate him, and the people, who saw him as merciless, regarded him with fear and admiration.

Orient and Occident, what a contrast between the two civilizations!

This profound contrast in habits, customs, and ideas reveals itself outwardly in dress and appearance. We wear clothes that are confining and tight to the point of discomfort; Muslims only like loose flowing robes. We let our hair grow; they shave their heads. We shave our beards; they maintain theirs with fastidious care. They religiously swear by their beard like they would by the head of their father. We uncover our heads out of respect and plain civility; Muslims never remove their turban. When he enters a church, a Christian uncovers his head for fear of offense to the majesty of the place; a Muslim going into a mosque leaves his shoes at the door. Where the European has a lively and spirited look, spontaneous and untamed mannerisms, the Egyptian maintains a serious attitude and a stern expression. He stands up straight and motionless. His demeanor is that of a statue, noble and commanding. He walks slowly and with dignity. He talks very little and always seems to be reflecting and intensely wrapped up deep in thought. Don't trust this impressive appearance. He is lazy, vindictive, deceptive and perfidious. Don't even be fooled by his display of devotion. He certainly is a believer and more than that an uncritical one. But even more, he is arrogant.

According to him his claim to be a Muslim is proof of and confirms his superiority over all the other families in the world. He despises the rest of the world for not having received the truth from the Prophet's mouth. The worst insult to his enemies that he could imagine is to call them Jew or Christian to their face. That's what his piety consists of. But let's use a better term, because piety always is a good thing, always affecting and worthy of respect, even if it is misdirected. Rather it's a kind of insolent and pretentious pharisaism, an ostentation that encourages outward appearance and practice.

Undoubtedly there are some sincere Muslims. But the zealotry of the great majority fits perfectly with their bad faith, ignorance, and stubborn pride that combine to form a fierce and restless fanaticism. To give some idea of this fanaticism, we will tell what happened right in front of us on the day commemorating the birthday of the Prophet. After we have described this festival, we will let our readers judge for themselves based on their own impressions.

On the Prophet's birthday, Sheikh el-Bekri, chief of the Saadi dervishes, went to the mosque where the latter joined him. After praying together, the procession went out across town, and during the march

devoted themselves to performing the zikr [*Translator's note*: a Sufi prayer that repeatedly praises God, recited to achieve an ecstatic experience], which consists of ceaselessly shaking their heads and bodies while repeating *"La Ila ill'-Allah, Mahommed Rassoul Allah"* [*Translator's note*: "There is no god but Allah, Mohammed is the messenger of Allah"], the profession of the Muslim faith. Keeping up this continuous rhythmic movement in time brings on intoxication and delirium. The mind is swept away as though by a whirlwind; the body alone submits mechanically to the commanding force of the rhythm. The rhythm itself becomes more violent and more irresistible. Epilepsy ensues, and more than one dervish falls to the ground as though thunder-struck, his eyes bloody, his lips purple, his mouth white with foam. The others reach a state of sanctity, in other words a frenzy. Their horrific exaltation thirsts for pain and torment. They tear at their flesh with their fingernails, they try to break off their own limbs, and some actually surrender their lives in this pitiful martyrdom. However, a number of the faithful mix into the crowd of holy ones. Among the different groups that form this bizarre congregation, especially noticeable are those idiots, those witless holy men revered by the populace, the first of whom we had seen at the threshold of a mosque. As they passed in front of us, the crowd pressed around them, jostled them, pushed them right and left, shouting loud enough to deafen them.

And that's not all. Ezbekiyya square held another spectacle and another surprise for us. At that spot the sheik stopped for a moment. We forgot to mention that he was mounted on a magnificent horse, richly harnessed and white as a dove. The dervishes and many of the Muslims, pushing against one another, immediately threw themselves bodily in the dust in front of the horse. It happened instantaneously. This human patchwork arranged itself wonderfully. They made a living floor with no visible gap or space. Then some of the dervishes took the reins of the horse. They advanced barefoot, and the sheik, always calm, always impassively solemn, rode sedately over this mosaic of bodies that were trampled at random by the four hoofs of his steed.

Those who resigned themselves in this way to pave the road for the sheik must have had muscles and bones inured to suffering. In particular their consciences must have been clear of any sin. Because it is here that pain is a denunciation of sin; it's an article of faith that the righteous, those above reproach in the eyes of God, would not expect to be injured during the passage of the venerable sheik of the dervishes.

After all that, is there any need to say that the superstitious Egyptian believes both in good and in evil spirits,

in the power of dreams, in the omnipotence of magic, that he keeps account of holidays as well as days of mourning, and scrupulously abstains from any undertaking during the latter? Gullibility, arrogance, and ignorance equally contribute to the character of the man of the Orient. But laziness lies at the bottom of it. Immobility is closest to heavenly bliss for him. His greatest happiness is when his entire being is at rest. However little comfort he may have in his house, the Oriental man devotes himself to the total luxury of the idle and carefree life. When the cool of the morning wakes him up, he gets up and says his prayers. After that, while lazily stretched out on a divan, he drinks coffee and smokes the chibouk [*Translator's note:* a long-stemmed Turkish pipe] dutifully offered to him by his servants. The time arrives when he customarily visits his friends. He goes out on horseback to avoid tiring himself and returns in time for the midday meal. Once again coffee awaits him. He silently savors the perfumed aroma of tumbak [*Translator's note*: a coarse Persian tobacco, possibly from tropical America]. The muezzin's voice signals that it is midday. He then goes to his harem where he sleeps for about two hours. Like everything else determined in this monotonous existence, after two hours have rolled by a servant approaches him and gently titillates the soles of his feet so that vague perceptions during his sleep blend with the illusions of a dream.

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As soon as the master opens his eyes, his women, always careful to anticipate his pleasure, present him with the long pipe that they have lit themselves. He slowly raises himself up on his cushions and stays that way for an hour, immersed in a delicious reverie. He allows his wandering mind to float on the drifting clouds that ascend and disperse as they emerge from his lips. This hour when life seems to be suspended and to stop for a moment in its progress is called the hour of the kef [*Translator's note*: a dream-like tranquility], the hour of the Italian siesta. After the kef, after this treasured calmness of mind and body, the Egyptian leaves the harem. His horse takes him to the mosque and brings him back home. The sun starts to go down toward the horizon. As soon as it has set, the Egyptian dines, lies down once again on his divan, and again begins to spread around himself the fragrant mist that he inhales through the scented water contained in his nargileh [*Translator's note*: a water pipe]. Or better, if he seeks less lonely distractions, he goes to the café where storytellers relate the inexhaustible wonders of the Thousand and One Nights, where he finds concerts of singers and the lascivious dances of the *almées* [*Translator's note*: Egyptian dancers who combine their performances with songs]. Nevertheless, in the café as everywhere else, a most profound silence reigns. No one speaks, no one smiles, no one turns his head. The patrons of that place squat solemnly on their legs, smoking the chibouk or the nargileh.

The reverie holds them continually motionless under an enervating spell. The enchantment continues; they show no sign of life except for an occasional exclamation when the storyteller evokes an expression of surprise or the dancer arouses a lustful shout.

That's how the man of the Orient lives his life! Notwithstanding, he often finds a useful and much appreciated distraction in frequenting the bathhouses. This is a well-advised practice that in a hot climate makes for a pleasant ritual. From a health standpoint, steam baths like those in Egypt prevent a large number of illnesses, mainly skin diseases, through profuse perspiration. When tired out by heavy work or by a long and fast walk, an hour or two spent at the baths leaves one feeling hearty, refreshed, and at full strength with an inexpressible sense of well-being.

The baths are reached through a fairly extensive corridor that ends up in the dressing room. The room usually is square. The attendants there are admirably trained and ready to spare you the slightest exertion. They take the clothes you leave behind,

they put a towel around your back, a second one over the shoulders, a third wound around your head and very high wooden sandals under your feet. After they've wrapped you up like this, they take you by the hand and lead you into the steam room.

Here you feel you're going into a cloud, a noticeable hot dark cloud. You lose your breath and are beset by suffocating blasts of heat. However, little by little your eyes become accustomed to the haze and your chest to the scorching atmosphere. In the middle of the room you see a fountain spouting boiling water that gives off these puffs of steam. The mist already caresses you, and you feel at ease in the midst of this damp heat that dilates all your pores and opens millions of channels for perspiration. At this moment an almost naked servant approaches you solemnly and silently, seizes you and snaps all of your joints. After that he stretches you out on a slab and pummels you vigorously from head to foot with a coarse woolen glove on his right hand. During this operation everything that had accumulated in the dust and sweat on the surface of the skin, and even within the flesh itself, separates and comes off. When this is over with,

you plunge into a tub and emerge almost at once colored bright scarlet like a boiled lobster; perhaps your fate would have been no better than that of the poor crustacean if the hot atmosphere that you had already been through beforehand hadn't previously prepared your fragile constitution for the excessive heat of the basin. But in the end one is quite prepared to soap down and rinse off with lukewarm water. When this operation is over the attendant wraps you up in towels so you won't catch a sudden chill and finishes up by taking you back into the first room where a cot has been prepared that is all ready for you. That's where you enjoy the sense of well being that we talked about earlier, that *kef,* that calm and peaceful rest that you has no idea of unless you have experienced it yourself. All the limbs, all the joints seem to have taken on an extraordinary pliancy. You are served the pipe with coffee and an attendant sitting next to you continues to massage you gently. All the while, immersed in that indefinable reverie between sleep and wakefulness, you savor with delight the aroma of mocha and of latakia [*Translator's note*: an aromatic Turkish smoking tobacco named for the seaport in Syria].

In Paris they've tried to open Turkish baths like those in the Orient. But these places always lack two essential things:

first of all, the climate, secondly the personnel. The people in charge of the baths in our countries never have the patience, the easy enthusiasm, the compliance and self-effacement of the attendants at a Turkish bath. Not only do they forget about themselves, but we forget that they're there. They're no longer thought of as real people. The respect and concern we normally reserve for our fellow men are easily set aside. At home the person who serves you is your equal, and you keep propriety in mind in the midst of all the attention given to you. In Egypt you think of nothing except the personal pleasure of utter and complete abandon.

Coffee, the pipe, the indolent leisure of the baths, those are the pleasures of the Orient. Everything for the body, nothing for the mind. But the society, you say, must offer some attractions, the same as everywhere else. Society! That word is unknown in the Orient. There is no society there where a woman walks next to a man as an equal, where the spirit of Christianity has allowed the divine principle of equality of the sexes to flourish. In Cairo, as in all Muslim countries, the woman is stripped of her natural rights. Her life, as well as her enjoyments, are sheltered from the eyes of men and especially from foreign men. The harem, closed up like a cloister, imprisons women of social position

inside its hard walls. They lie there on their divans and slowly pass the monotonous hours in languid idleness. Their sedentary existence soon makes them excessively stout, which after all is highly favored among the Turks. The perfect woman in the Orient is one about whom the poet can say: her hips are like two cushions and her face is like the full moon. The Turk rules his women as their master and as a jealous one at that. They never share between them the affectionate familiarity that we have, that reveals equality and mutual tenderness. His women serve him as slaves. They lavish on him the attention and innumerable indulgences that we wouldn't dare to demand from our own servants. Always submissive, always deferential, their only task is to please him. But in lavishing all this attention, all this indulgence, they have but one goal in mind. That is to captivate the mind of their master, to gain the upper hand among their companions, and to make him give them jewelry with which, in the event of a divorce, they hope to entice another husband or at least to live protected from poverty. In contrast to our women in Europe, they wear their most precious ornaments inside the house. Gold, embroidery, cashmeres in striking colors, the thinnest and costliest fabrics

in general constitute the graceful attire of women in the harem. Still, here in detail is a description of their dress:

First of all, a chemise, either of muslin or crepe or of very thin fabric; sometimes white, sometimes a bright and showy color, like pink, yellow, or purple. The chemise has extremely wide sleeves. They go down to the knees and cover a pair of drawers made of very thin material.

A very full-size pair of trousers called *chintyan*, attached at the waist and tied to the leg so that they fall down like a skirt over the feet.

A large gown called a *yalek* that very precisely sets off the lower part of the torso and is cut out at the top so that the bosom is covered only by the chemise. The gown buttons up in front; it's open from the hips downward on both sides. The sleeves, narrow and tight down to the elbow, are slit along the forearm and sometimes fall far enough to touch the ground.

Next is the sash positioned on the hips. Sometimes it's a cashmere shawl, sometimes a muslin scarf.

Finally over the *yalek* she puts on a *gibbeh*, a sort of gold-embroidered cloth jacket that's kept open at the front. But most usually the *gibbeh* is worn as a winter garment.

The headdress of Egyptian women is a small red calot with an embroidered crepe kerchief wound around it like a turban. On top of the calot there is a round plate of gold decorated with diamonds (it's called a *kours*). The hair, smoothed over the temples, is woven at the back into small braids intermingled with spangles of pearls.

The legs of Egyptian women are bare except for a kind of shoe made of yellow morocco leather or of velvet that they wear on divans or carpets.

When they go outside the harem, they cover these opulent garments with a large silk chemise. Over the chemise they put on an enormous robe of black taffeta called *habarah*, which covers their entire body. A veil of muslin on a band over the face comes down leaving only two eyes visible. As to footwear, they wear ladies boots made of yellow morocco leather that prevent their legs from being seen by passers-by.

Poor women go on foot. Wealthy women, when not inside their gardens, never touch the tip of their sandal to the ground. Normally they ride on a donkey; if the wind has been blowing, their enormous clothes swell out, round up, and form a perfect balloon.

A eunuch whose job it is to keep the crowd back always walks in front them; sometimes there are even several eunuchs to accompany them and open the way for them.

The status of the eunuch is a very favorable one in the Orient. When the master is away, they are the ones in charge. They can use the master's finest horses, they dress in magnificent clothes, and this splendor surrounds them with special respect. All the same, we confess that we needed some time to get used to seeing these humiliated men in the same way that the Orientals do. Our opinions as Europeans didn't allow us to find their fate enviable, despite the opulence that adorns them and the power that they wield. Victims of the fierce and merciless jealousy of wealthy Orientals, we've never been able to regard them without feeling deep sympathy. Moreover, it would be wrong to think that Muslim women have contempt for the eunuchs or that they put up with them reluctantly, even though the eunuchs are trained to ceaselessly dog their steps and to denounce them to their common master. They show no sign that they experience them as troublesome guardians. The eunuch is the natural protector of their honor. Furthermore, since such servants are proof of wealth and high station,

the woman of the Orient is quite as proud to be seen out with a eunuch who is good-looking and handsomely dressed as our ladies would be to have at their disposal an elegant carriage to go visiting or for fast travel along our fashionable boulevards.

It's easy to imagine the degree to which the sequestration of women in the Orient makes existence there unpleasant and tedious. Formerly dancers, the *almées*, alone broke the monotony. They used to be numerous in Cairo and took part in festivals, both public and private. Their lascivious and provocative dances enraptured the Egyptians, those good old men of the world who still displayed the ancient image of the phallus with great solemnity, that shameless image whose obscene movements were enthusiastically watched by the astonished crowd. Nowadays these dancers no longer are seen publicly. Mohammed Ali confined them to Upper Egypt near Esna [*Translator's note*: a small town about 55 mi. south of Luxor] and prohibited them from leaving. Nevertheless several of them risked violating the ruler's orders. But every problem in the Orient is resolved with a few gold coins. In consideration of a present given to the head of the local district, who by the way knows quite well how to look the other way, it's not hard to host a dance show of *almées* in one's own home.

The ones that we saw were young and pretty. The music simply consisted of a *tarabouk* and a tambourine. Added to this modest harmony is the sound of hand-held metal castanets on which they accompanied themselves most charmingly. Their sumptuous brightly colored variegated costumes were hardly different from those of women in the harem. As to their dances, it's safe to say that they would make the most shameless European blush with embarrassment. Also, any self-respecting person in the Orient, whether man or woman, looks on dance as a disreputable art form and considers it a disgrace to encourage it. The *la Péri* ballet wanted to present a version of the famous bee dance here at home. But common decency wouldn't have allowed a French audience to tolerate it, let alone have our French dancers try to reproduce the licentious movements and immodest postures of dancers in the Orient. At the moment that the *almées* of Cairo begin their bee dance, the music takes on an amazing new life. The *almées* inspire themselves by singing these two words that they repeat incessantly: *el nahl ïao, el nahl ïao*, here's the bee! here's the bee! The insect, at least supposedly, hovers and buzzes around the terrified dancers. Where is it? Over here, over there, on the right, on the left and everywhere at the same time.

The *almée* tries to catch it, but it escapes and constantly comes back. They pursue it; it finally takes refuge in the folds of her dress. It's then that the fear of it intensifies. The dancer sheds her clothes. Impatient and desperate, she first removes the jacket, then the sash, then the gown and trousers, and lastly everything except the chemise. But the chemise is made of material so diaphanous that the impassioned movements of the dancer raise it up with the most delightful prospects! Bit by bit the measure slows down, and the ardor of the *almée* diminishes with it. No longer is it the unrestrained frenzy of pleasure, the wild and tempestuous energy in a delirium of infatuation. It's a more voluptuous fatigue, a languid, enervated, even more acute exhaustion. The dancers, picking up their garments one by one, get dressed again in front of the crowd, who the whole time were not exactly watching this provocative spectacle with cool detachment.

We venture to say that we deplore Mohammed Ali's ruling against the dancers whom Egyptians loved and who enhanced Cairo by giving it an exotic image. We say so in all sincerity and without apprehension, because the poor outlawed *almées* have been replaced in a most dreadful and deplorable way. Male dancers were substituted for the female dancers.

The *kawal*, that disgraceful imitation of the *almée,* is disguised in female dress. He has darkened the edges of his eyelids to make his eyes look larger and livelier. He has rouged his cheeks. He has let his hair grow long and interlaced it with pearls and jewels. He wears ornaments on his arms and legs. He imitates the lascivious and licentious movements, the passions of the opposite sex that are not his own. He despicably appeals to desires that are not meant for him...Let's turn our attention away from this revolting contrivance, from this sordid affectation that turns the stomach, from those faded and stupefied eyes that disclose a profession that's worse than disreputable. We regretfully write that Mohammed Ali in condoning the *kawals* has deeply offended public morality and every day permits this most shameless vice to arrogantly insult the dignity of nature.

SUMMARY of Chapter III.

Egypt's present condition -- Plight of the fellahs -- The administrative system that is the cause of this trouble -- Mohammed Ali, the sole owner and tradesman of Egypt; a monopoly; taxes, the way they are collected -- On collective liability -- The Egyptians don't like Mohammed Ali -- Promotion of the viceroy; his institutional restorations -- The regular army; how it was formed -- French trainers -- Rejection of fellahs for military service -- Success of the Egyptian army -- Observations on its progress; troop uniforms -- The navy -- Dockyard, fleet.-- Schools -- The medical school, veterinary school and stud farm of Choubrah -- Military schools -- Polytechnic school -- Preparatory schools; primary schools. -- A fortunate outcome for the restoration of Egypt.

CHAPTER III.

In thinking about the restoration that Mohammed Ali has imprinted on the destiny of Egypt for about forty years, one cannot visit the banks of the Nile without expecting to find a display of new prosperity there. Along with order and security one naturally would imagine that this land of Egypt, so unfortunate and so profoundly debased such a short time ago, would have found during the attempts at its recent development some relief from its poverty, some impulse to emerge from its depression. At all events, nothing came of it. In striking contrast, what saddens the instantly disillusioned traveler is seeing hideous, shocking poverty everywhere,

poverty in towns and in the countryside, impoverishment of the human body and of everything that belongs to it. Take a look at the *fellah* who peacefully tills the soil; he is dressed only in rags and tatters. Were he naked, he would seem less destitute. Out in the fields all day long he is burned by the sun; at night he shivers inside his house. And such a house! A mud hut with a roof barely a few feet above the ground which forces him to remain crouched or squatting. No dividers; not one piece of furniture. A straw mat, if there is one, is where the family sleeps helter-skelter with its sheep, its chickens, all of its domestic animals. All there is to eat is a little *dourah*, and never enough to stave off hunger. Rarely, and only with luck, he adds to the *dourah* a few onions, lentils, or fruit pickled in vinegar. There are some who seem to subsist for several days on a bread made from cotton seeds, and there are others, like their livestock, on tree leaves. However, this is neither the fault of heaven or of earth. There is no country as fertile as Egypt. But the abundance of the fields and the rich harvests fall only to the rulers. The *fellah* remains permanently a slave and possesses nothing that belongs to him. He sows seeds in the earth, he cultivates it with his own labor, and someone else takes away the harvest.

Egypt's deplorable condition is especially noticeable when going into the provincial interior. At every step there is a group of ruined hovels. Once a village had been there; death has passed by and it's left abandoned. There once were cultivated fields; plague carried away the last worker, and desert took over the countryside. The squalor of the *fellah*, his poor diet, his unhealthy abode, the complete absence of public hygiene engenders thousands of diseases and the decimated population diminishes every day. Nevertheless, here and there large newly constructed buildings are going up. These are Mohammed Ali's storehouses. They are where all of Egypt's products accumulate. While the government's granaries overflow with commodities whose sale will later cover the huge costs of innovations undertaken by the viceroy, the people who have filled the granaries desperately covet them and are perishing from hunger.

Anyway, let's not go on too much about the despotism of Mohammed Ali and the slavery of the Egyptian peasants. Remember that the great age itself had its *fellahs*, and that La Bruyère [*Translator's note*: Jean de La Bruyère (1645-1696), a French writer and social critic of his time], during the prosperous reign of Louis XIV, also pleaded for a little bread for the French plowmen.

"Some shy creatures can be seen" he said, "males and females, dark, grayish, all sunburned, fixed to the ground in which they are digging and turning up with unquenchable determination. They utter a rather distinct voice, and when they get up on their feet they reveal a human face. In fact, these are people. At night they withdraw into their lairs where they subsist on black bread, water, and roots. They spare others from sowing, plowing, and harvesting for a living, and so they are entitled not to lack for the bread that they have sown."

Thinking about this admirable passage from the author of *Caractères* [*Translator's note*: *Les Caractères de Théophraste*], one will be less readily outraged at the ruler of an uncivilized country, and especially a ruler whose benevolent ideas look more toward the future than to the present. But as happy a future that Mohammed Ali plans for Egypt, it's no less true that the present is dreadful and the people's condition is pitiable. The administrative system that weighs down this unfortunate country is the source of all of its trouble. A few words will suffice to show how unjust and tyrannical it is.

Before Mohammed Ali part of the land of Egypt

was the prerogative of the Mamelukes. Another part belonged to mosques under the entitlement of the Rizaqs or the Waqoufs. Finally, the third part was divided among about six thousand landowners that were called *moultezims*. Barely established in his pashalic [*Translator's note*: territory or jurisdiction governed by the pasha], Mohammed Ali didn't take the trouble to declare, as did Louis XIV, "I am the state" (*"L'État c'est moi"*). He went on to prove it in a more absolute and decisive way. Like a true Muslim prince, he forcibly dispossessed the former landowners and took over the entire countryside himself without respect for titles that had been undisputed and without consideration for the *ulémas* [*Translator's note*: doctors of law in Muslim societies] whom he had cajoled up to then and who were influential in bringing him to power. Later, when the title to the land was irrevocably under his ownership, he granted himself an additional right to the agricultural products of the land, namely to purchase without competition the best and most lucrative of them: cotton, indigo, rice, rubber, opium, etc., etc. In this way Mohammed Ali became the sole landowner, the sole grower, and the sole trader in Egypt. He was in charge of everything and was free to control agriculture as he wished. He distributed land within the same village among the *fellahs* who depended on it and forced them to till it. A portion was assigned to them for growing *dourah*. Crops that the management rejected fell entirely to them.

As to the monopolized plants, the number of *feddans* that they had to give to them was determined by the administration. The rest of the land was devoted to wheat, barley, and vegetables. But even here the government gives but a share to the *fellah* and takes whatever suits its whim or its needs.

This monopoly also extends into commerce and industry. When the government has purchased a crop from the *fellah*, it sells him merchandise from its stores. If the *fellah* wants to buy a blue shirt, which is pretty much his entire garb, he goes to the government's stores to get it. If he wants a burnoose, a mat, or a tarboosh, it's always the state that provides them for him and dispenses them like an imperious, despotic, avaricious merchant who has no fear of competition in his business. Here again the price can be too high without seeming exorbitant. Up to a point the *fellah* is unaware of the value of manufactured goods. But when agricultural products are sold the injustice borders on indecency and the harshness becomes an insult. If he needs wheat, barley, or any other commodity that he has deposited in the administration's storehouses according to the law, the administration can't deny him what it's holding for him. Only the prices aren't the same. The public treasury has established a two-fold price list:

a lower price when it buys, and a higher price when it sells. The state, the sole purchaser, buys at two, and as the only seller, it resells at four. It's that simple.

But that's not all. The government overloads the plowman with countless taxes. The tax on the land is called *miry*. It varies according to the quality of the soil. The minimum is 10 francs and the maximum is 16 francs per *feddan.* The peasant is also subject to a personal tax, *ferdet el rouss*, likewise varying from 5 to 125 francs according to the individual's circumstances. Women don't pay the *ferdet el rouss*. Children aren't taxed until they are twelve years old. But how is their age determined in a country without a public state registry? Would the state accept voluntary statements from those under its jurisdiction? Well, in no country is the public treasury that naive. In the Orient just as elsewhere the public treasury is not about to give up its due. The *cheiks-el-belad,* convinced that it's not much trouble to collect somewhat more, conceived of an easy and profitable way to take a census. It consists simply of a ring made of rope, which without further ceremony was declared to be the legal measure. Any one whose head could not pass through the ring was declared to be over twelve and thus taxable.

Parents can appeal this arbitrary examination procedure; the protests generally are quite widely permitted, but are well known to be ineffectual. Coming on top of this is a tax on livestock, always to the advantage of the government: 20 piasters for a cow and for an ox, 4 for a camel and for a sheep. Every date tree requires 1 and a half piasters for the administration. A Nile boat brings in 200.

Clearly the public treasury has overlooked nothing and also has not neglected itself.

How does the government collect all these taxes? Here's how: at harvest time all the produce is brought to the viceroy's storehouses, and received as we've just said, at a price that the viceroy himself has set. An account is set up for each *fellah*. On one side is the amount he owes to the treasury both in taxes and for goods that have been delivered to him. The other side notes the total of all that he has deposited. If this total, in other words his credit, is greater than his debit, the grower gets a treasury check, which, however, the treasury consistently will fail to pay. If on the contrary the state becomes his creditor, the debtor then begins to undergo a series of tortures and humiliations. The cudgel forces the last penny out of him. When he has nothing left,

he is beaten again. Finally, when it's sufficiently clear that further beating is useless, they stop reducing his flesh to tatters, but his cattle, his sheep, all that he owns, is sold. The public treasury is satisfied and the poor wretch doesn't owe anything more. But he doesn't have anything more, because his means of livelihood have been taken away. There he remains, reduced to the most abject misery until the day he dies.

The harshness of this governmental system is obvious. Frankly however, if it were carried out in good faith and applied intelligently, there would be more left to the *fellahs* for their livelihood. Unfortunately brute force and unfairness in measurement recently were added to the strict regulations. The principle was that "the government must not lose anything under any circumstances", Village lands had been measured out at an earlier time. From then on the village had been paying the tax in proportion to the measured area, even if the fields had no water or if part of the ground had been left uncultivated because the farmhands had died. The same holds true for individual taxes. If an epidemic decimated the village, or if half of its inhabitants had been sent for military service, the lists can't be changed,

and the village must pay the entire tax. This led to the disastrous law of collective liability. If at the time when accounts are settled a *fellah* is found to be in debt to the government, his debt is assessed against the other fellahs who are entitled to a payment from the treasury. Thus there's no benefit for anyone and ruination for all. Poverty is infectious; it spreads and the collective liability devours all of Egypt. This collective liability extends not only from neighbor to neighbor but reaches from village to village, from canton to canton and from province to province. A province less in debt pays off the debts of an insolvent one. This is the real cause of Egypt's ruin. At the outset an active and industrious person can pay for the weak and lazy. But the demands of the public treasury are forever insatiable; he couldn't ever satisfy them and he has collapsed under the burden. He is disheartened. Seeing nothing but privation even after all of his work, the Egyptian plowman has given up on agriculture. Produce has diminished; a multitude of districts have withdrawn from the public treasury due to abject poverty. The system of collective liability that at first was founded with so much hope, the system that continually should have filled the coffers of the treasury, in the end only dried up the source of all of its wealth

and reduced the country to an unimaginably deplorable condition.

We could go on much longer about this wretched state that Egypt is in, but what we have said so far is undoubtedly enough to give a good idea of it. Is it any wonder then to hear that the viceroy is judged very differently inside and outside of his state? In Europe Mohammed Ali's philanthropic ideas, his great visions and the future that he is planning for his realm are applauded. In Egypt his subjects regard him as a despot bedeviled by the twin demons of tyrannical pride and greed. Many of them hate his name, and this feeling, which is quite believable, does not stem from religious fanaticism. At first, institutions modeled on Christian ones undoubtedly would have deeply offended their consciences. But today these institutions have prevailed; they have been adopted without hesitation, and the people would have loved them had they improved their lot. The proof is that in 1840 the Egyptians impatiently awaited the arrival of a European army, and they cheerfully accepted the idea of living under Christian laws. We were in Egypt at that time; everyday the man in the street asked us about Europe's intentions and expressed their regrets that they hadn't yet seen our troops.

It was particularly toward France that their wishes were directed. One people instinctively recognized the feelings of the other. At that time they acclaimed the benevolence of our laws, our tolerance, and our generous aims. They recalled the time of our expedition, already so long ago, as a happy time. A belated memory! Unfortunately just when the Muslims thought to seek the Christians' protection, circumstances became critical for them. At that fearful moment fanaticism was revived, and along with fanaticism the revolt against the infidel. To the Christian, the suffering Muslim is a human being and a brother; for the Muslim, the Christian who begrudges his fate is not a man but a dog.

Some travelers from our western countries, witnessing the wretchedness of Egypt, picked up on the protests and embraced the rancor of the victims. They portrayed the viceroy as the scourge of his people and resolutely denounced him as a bloody tyrant before the bar of humanity. But in our view it's unjust to judge such an extraordinary man without taking into account the great institutions that he established in Egypt nor the difficult circumstances in the midst of which he was placed. Forced to fight against the sultan and to preserve his pashalic

in warfare, Mohammed Ali had to raise a large army out of proportion to the number of inhabitants and the income from the land. To feed and maintain this army he had to come up with new resources. The people supplied them and bore the entire burden. But could it have been otherwise? Wasn't it the first duty of the viceroy to maintain his position and to defend against external attack? Had he lost his duel with the sultan, Egypt once again would have fallen immediately under the authority of the Ottoman Turks [*Translator's note*: *La Porte* was a French term for the Turkish sultan's court]. Anarchy would return to the banks of the Nile. The plowman would work for the Turkish tax collector instead of for the viceroy's treasury. Poverty likewise would strike in the midst of the harvest, and in the towns those institutions bearing the seeds of the future would be abandoned and perish. The triumph of civilization depended on the triumph of Mohammed Ali. France was not wrong about that. That was why it always held a genuine friendship for him and why its councils aided and supported him. So for us, let's follow Mohammed Ali over the realm of his splendid accomplishments. That's where we'll find the man of great vision, broad ideas, the greatest plans, who forcibly demanded painful sacrifices from his people

but who would reward them a hundred fold if modern civilization, bought at great expense, would restore step by step the reign of Cleopatra over ignorance and barbarism.

Mohammed Ali arrived in Egypt with the rank of captain in the Ottoman army that our soldiers overwhelmed at Aboukir. Following the departure of the French expedition he gradually gained influence and in May 1805 he was proclaimed governor of Egypt. Hardly had he been invested with sovereignty over one of the finest provinces of the empire, Mohammed Ali presented himself to Europe as a reformer and he soon stunned the world with his bold ventures. War is a harsh school. It destroys, but it also teaches. It kills people, but it propagates ideas irresistibly. Mohammed Ali readily appreciated the superiority of our knowledge. He recognized the value of our military organization on the battlefield. The vanquished admired the victor because he was able to understand him and perhaps to emulate him. His main hope was to build an army on the model of Bonaparte's legions. Among all of the innovations that he had considered up to that point, that was the one that most captivated his spirit and his ambition. An army with European discipline was the base of his power and his path to fame.

With it, his precarious rule, subject to caprice, would be placed out of harm's way. With it he would successfully make Egypt independent. But what obstacles there were in the way of such a plan! To divert the mistrustful suspicions of the sultan until the time when the pasha could defy him openly, to overcome the ignorance and fanaticism of the religious leaders, to quell the even more formidable opposition of the irregular troops that were about to be forced out, surely required tireless perseverance and an iron will.

At the outset in 1815 Mohammed Ali tried to establish a regular army. He wanted to transform the tumultuous bands of Turks and Albanians that then formed the Egyptian militias into disciplined troops. They were issued an organizational plan that ordered them to conform to new regulations. But for a long time this bunch of foreigners had been used to plundering the peasants, living by pillaging and violence, and oppressing the towns and the countryside. Order and discipline seemed to them to be an infringement of their long-standing privileges. The ruler commanded in vain; the soldiers resisted and loudly protested against this sacrilegious *Christian* innovation.

Mohammed Ali was accused of ungodliness. A revolt broke out in the name of Islam, and the viceroy could placate the rebels only by convincing them that he was giving up his plans.

Forced to give in to them, Mohammed Ali concealed his resentment. But losing to the Turks and Albanians stuck in his mind. They had frightened him; he now had to destroy this brutal and powerful soldiery arrayed against him. He only awaited the right moment, and that moment presented itself.

The Wahabis had taken over the two holy cities of Mecca and Medina. Pilgrimages were forbidden and Islam was threatened. These dreadful sectarians who had spread all over Arabia boldly called Mohammed an imposter, and fear of invasion filled all the provinces of the Turkish Empire. Mohammed Ali, to clear himself of the reproach of impiety, declared himself the leader of the war against the enemies of the Prophet and sent the greater part of his Albanians to fight them. He selected the most intractable and unmanageable of them. The rest were sent later to the Sennar [*Translator's note*: Eastern Sudan, on the Blue Nile], which he conquered.

At this point Mohammed Ali resumed his plans to reorganize the military. But his first attempt had made him cautious. He outlined this important reform in secret far away from the capital.

He built barracks and a hospital in the town of Aswan between Egypt and Nubia. That's where the *nizam gedid* (the new army) originated, and that's where he sent Ibrahim his eldest son, his young Mamelukes, and those nobles of the court destined to make up the core of the future army. Bonaparte's legions had given him the model. Bonaparte's soldiers, recently victorious but now outcasts, were charged with training the sons of Egypt in tactics and discipline, the key to victory.

Strong, skillful, even audacious trainers were needed to command these young Mamelukes, who had been brought up to despise Christians and were scarcely restrained by any fear of their leader. Our compatriots lacked none of these qualities. Egypt respected them. One of them M. Sèves, who became Suleiman Pasha, always attended Ibrahim Pasha in his capacity as chief of staff. Through his devotion and military skills Suleiman Pasha rendered an immense service both to Mohammed Ali and to Egypt.

The training proceeded despite the bad faith of the Mamelukes. After a few revolts that were immediately put down, the new army gradually became familiar with the discipline of our tactical operations. They were shown how to bear arms, they were trained to make up platoons and batallions and they were able to form regiments.

Mohammed Ali then took a step that caused a lot of grief but nevertheless would be the most useful outcome for the country. He issued an order to enlist the Egyptians. There was a widespread outcry of surprise and displeasure. The Turks, who habitually despised the peasants and drove them around with whips couldn't imagine wishing to elevate them to the dignity of a soldier. And the Arabs, long used to being humiliated, had no better opinion of themselves. Nevertheless, Mohammed Ali's order allowed for no delay.

One day Albanian soldiers, bedouins, surrounded some villages, seized the men, young and old, tied them together and threw them into a prison in a neighboring village. One must keep in mind the distress that the requirement for military service causes even now among the *fellahs* in order to understand the dismay that took hold in the countryside at the time. The Egyptians had never paid the cost paid by a man with his liberty and his blood. Never, under the Greeks, under the Romans, under the Mamelukes and the Turks, had Egyptians left their fields to bear arms. If they lived in poverty, disdained and brutalized by their tyrannical masters, they at least had a passivity resembling peace and quiet,

and the meager satisfactions of an existence and to end their lives among their families. Moreover, they mobilized the force to oppose this unexpected assault. Some districts revolted, and in several places the viceroy's agents were massacred. Had there been a single moment of weakness or hesitation, the insurrection would have prevailed and that would have been it for Mohammed Ali and his plans for reform. But the viceroy was not one to give in to vexation and discontent. At his order, the guilty ones were seized and heads rolled. It was a terrible but necessary example to their compatriots. Forced to submit, the *fellahs* tried to evade the law by any means available. Some of them emigrated; others became household servants for European overseers. Many of them burned one of their own eyes with quicklime or cut off the forefinger of their right hand. To put a stop to these voluntary self-mutilations Mohammed Ali did not spare the disabled. Some of them were sent to be galley slaves; others were taken on the spot for factory work. The despair of their wives knew no bounds. Their husbands and brothers had been taken away; they foresaw the day when their sons as well would be taken from them.

Dehumanized through love and grief, distraught, as though the viceroy's agents were already on their doorstep to tear away their children nursing at their breast, they summoned up horrific courage and mutilated them themselves.

It was in spite of this desperation and blind opposition that Mohammed Ali accomplished the goal of his first reform. A national army was thus established in Egypt. Moreover, once they were serving in the army, the Egyptians did not disappoint the viceroy. They soon showed commendable pride in their new station. When the Turks disparagingly called them by their former name of *fellah,* they rejected the insult - that word in Egypt is always an insult - and replied that they, just like the Turks, were soldiers of Mohammed Ali. That was the first time that such parity was understood and proudly stated. If the Egyptians retain that worthy sense of honor, they soon will be restored to the high rank of manhood and military service from which they had fallen so many centuries ago. The army would be an excellent school of honor for them, as it would be for everyone.

Whatever the troubles and concerns that the *nizam gedid* had brought on Mohammed Ali, it must be recognized that the viceroy derived ample compensation.

His renown came from of the reputation of his army. He had fought with them in Morea [*Translator's note:* an old name for the Peloponnesus, the southern peninsula of Greece], and in Arabia, He led them in Syria to confront the forces of the sultan, and they followed his command well on the battlefield. It was there that the Egyptians defeated the Turks who always had disdained and mistreated them. By their triple victory at Homs, Konya, and Nezib they opened the gates of Constantinople for their leader, and without any intervention by European powers, nothing any longer stood in the way of Mohammed Ali taking over the sultans' sword. Recounting the successes of the Egyptian army constitutes its finest praise in but a few words. Let's end now with some brief thoughts.

One restriction, which might at first seem unjust, excluded Egyptians from officers of higher rank. The viceroy was faulted for conferring these ranks only on Turks. For a while we thought that this exclusion was necessary. Scarcely liberated from servitude, Egyptian officers didn't have the ease and confidence that befits a leader. As soon as they rose slightly above the main body of the army, they immediately lost the qualities that they had shown as soldiers.

They lacked character, tact, and determination. They couldn't behave responsibly on their own nor exercise authority over their subordinates who had only obeyed the Turks. Still, if the welfare of the army required that the viceroy keep them in a secondary role initially, perhaps he should have tried to improve their position and make it a more honorable one. That's what should have been done but it wasn't. In the Egyptian army there was a huge gap between the lower ranks and the higher ones. A second lieutenant received 75 francs a month while a colonel earned up to 25 or 28 thousand francs a year, almost the same as the pay for a marshal of France. We well know that in principle Mohammed Ali saw the need to win supporters for the *nizam gedid*, to persuade and change the minds of the ill-intentioned, to win over their ambitions and to cater to their desires. Influential people like that had rejected innovation through ignorance and fanaticism. The expectation of an amply rewarded position of command quietly convinced them and won them over without resorting to the ruler's ideas. But the situation now is no longer the same. The viceroy has nothing to fear, neither from within nor from without. Finally the time would come when junior officers would be paid more appropriately.

Suitable affluence would give them self-confidence and the respect of the army.

Imitating the organization of our European armies, Mohammed Ali wished, and we approve, to preserve some national character in the uniforms of his forces. All of the troops are dressed almost in the same way. The tarboush, a red hat without a turban, serves as the headdress. The rest consists of a round jacket clasped across the chest and inserted under trousers tightened around the waist by a cord. The trouser ends in a gaiter below the knee, leaving the whole foot bare. Each soldier wears a broad belt. The footwear consists of red shoes for the infantry and large boots for the cavalry. The winter uniform is made of red and blue cloth; the summer one is a white cotton fabric. The armaments are like ours or differ only very slightly.

As though having established a land army were not enough, Mohammed Ali felt the need to create a navy. He already foresaw the moment when he would invade Syria and vie with the sultan. He needed a fleet to supply his troops and to prevent a landing of Turkish soldiers.

At first he purchased a number of frigates in the mercantile ports of Venice, Marseille, and Leghorn. But these frigates were hardly fit to be equipped for battle, and he decided to build others under his own supervision. Once again he turned to France for this new plan. France provided him with two men of undisputed ability, M. de Cerisy for shipbuilding and M. Besson to organize and direct the fleet.

Within four years Alexandria saw a naval dockyard grow from the ground up that it displayed with pride to all of Europe. Eight thousand *fellahs* were trained in different skills that allowed a setup of this kind, and the workers soon were worthy of being skilled engineers. Construction proceeded rapidly. Mohammed Ali in fact spared nothing. Egypt has neither wood nor iron. The viceroy promptly imported them from Europe; the workers lacked nothing. He was with them the whole time. As he moved forward with his innovations, his brilliance seemed to grow and his activity increased along with his ambition. A creative spark was in his eye; he imparted his enthusiasm to all around him and they also were able to perform wonders.

As a result Mohammed Ali then possessed eleven ships, seven frigates, and fifteen corvettes or schooners. The crews were well trained and seasoned. Everyone who visited this somewhat improvised fleet admired the order and discipline that prevailed on board the vessels. That was the fleet that defended the shores of Syria and prevented a landing by the Turks. It did even better. It captured more than one of their ships; it pursued their fleet, and blockaded it in the anchorage of Marmarile, which finally forced it to go back later through the Dardanelles. If the successes were not as spectacular as those of the land army, it's because the Turkish navy neither offered nor engaged in combat. Its caution was evidence of the inferiority of its fleet.

So the creation of his army and navy had been fortunate for Mohammed Ali. But what pains had he not taken to ensure their success! He did not retreat from any sacrifice. All of the installations required for their maintenance arose like magic and were directed by devoted and capable men that the guiding star of this viceroy, like that of all great men, had attracted to his side. Cannon foundries, armaments works, factories of all kinds, nothing was lacking. And to better establish his power Mohammed Ali felt the need to distribute the knowledge that guided it, so he created schools.

These schools would become fertile ground with incalculable results for the future of Egypt. The country that had brightened the dawn of human knowledge had been successively abandoned to servitude, ignorance, and apathy. The new schools will rekindle the sources that in ancient times enlightened Greece via Egypt and the rest of the world through Greece. Doubtlessly one day they will prove to be Mohammed Ali's greatest glory.

School of Medicine. The first school that the viceroy founded was the medical school. He was anxious to establish medical training to prepare for the time when he could dispense with the European doctors that were attached to each regiment for army service. It was M. Clot, then the *nizam's* chief surgeon, who in creating this school achieved lasting recognition in the eyes of Egypt. He established it first in Abouzabel where there had been a training camp. But when this camp was abolished, the viceroy transferred the school to Caserlain near Cairo where we visited it.

The building occupied by the medical school is situated on the right bank of the Nile opposite Roudah island. It's huge, well laid out and fully ventilated. It has a library that contains Arabic translations of our best medical treatises,

a chemistry laboratory, a room for physics, specimens for the study of natural history, and an apothecary's laboratory. The students are quartered in the school and take courses for five years. At the end of that time they undergo a final exam. Those that pass join the regiments with the rank of assistant or sub-assistant surgeon. Nowadays almost all the professors are Arabs who began their training at Abouzabel and came to Paris for advanced study where they received their doctoral diplomas under our auspices.

A hospital that normally has three to four hundred patients adjoins the medical school. There the students are often called on to verify in practice what they have learned in theory. The order that prevails at the institution and the results that they achieve are the greatest credit to M. Perron, the current director. M. Perron, our fellow countryman, combines his superior knowledge and his medical skills with a perfect command of the Arabic language. It's evident that his job has become easy for him, and understandably he has become in this way indispensable for Egypt.

Veterinary school and stud farm of Choubrah. In the plain of Choubrah, about a quarter of a league from the viceroy's magnificent castle and one league northeast of Cairo, rises a large recently constructed building,

a vast parallelogram whose sides are two hundred eighty and a hundred and eighty-three meters. This structure contains several main buildings and huge stables separating tracks enclosed by railings. That's where the stud farms and the veterinary school are, founded and directed, or rather previously directed, by M. Hamont.

Before M. Hamont, Egypt, which possesses a very large number of cattle and whose principal wealth is in agriculture, which had the granaries of Joseph and which supplied the Roman world, Egypt never doubted that there had to be a therapeutic science for treating animal diseases just as there is for humans. At every moment cruel epizootic diseases had ruined plowmen and left the land fallow; dreadful but futile warnings. Today a hundred Arab students under the tutelage of French professors are initiated into veterinary science. They learn how to cure animal diseases, and even better they learn how to prevent them by studying the local conditions that give rise to them. After five years of teaching their education is sufficient. They then are placed either in breeding stations or in cavalry regiments where most advantageously they replace Turkish marshals

who too carelessly had let a large number of horses die. So that the students could exert the necessary authority to resist the influence of the men that they were replacing and likewise gain the respect due to them based on their knowledge, the viceroy made them equivalent to medical doctors with a title that conferred on them the rank of officer.

Prior to M. Hamont, a Turk had directed the stud farms. But that was in another building, since the one we are talking about had been built using the plans of our capable fellow countryman. At that time horses had been tied in the stables by all four legs. Their diet was poor. The old practice had them tied up night and day in a field of clover for a period of five months. For the rest of the year, cruelly and without any transition, they were fed a diet of barley and straw. What were the consequences? Out of two hundred mares only fifty foals, at most sixty, were obtained. Furthermore they were weak at birth and remained mediocre in size, because the pairings were determined almost entirely by chance. M. Hamont changed this pitiful system right from the start. The number of births then increased unexpectedly. He obtained eighty and up to ninety foals per hundred females. The foals, better cared for than previously, grew to be better looking.

In the end, after several years and successive cross breeding, they obtained superior horses. The horses combined requisite size with the most desirable qualities of the Nejdi stallions [*Translator's note:* the Nejd (or Najd) is a large plateau region in central Saudi Arabia] that had sired them.

At the time that we visited the stud farms they owned thirty-two magnificent stallions, three hundred and fifty mares and four hundred foals of all ages. The Europeans assured us that never before had the stud farms shown such a spectacle of wealth and abundance. Nevertheless after we left, the program suffered a reversal of fortune. The stubborn pride and persistent opposition of the Turks, who always believed themselves to be our superiors in raising horses, prevailed in the end. M. Hamont left Egypt, where his talents, activity and enthusiasm had made him so indispensable. His departure wrecked once and for all a fine achievement whose success was mainly due to his presence.

Military academies. To provide the armed forces with uniform training, to have capable officers soon ready to take command, Mohammed Ali established schools for artillery, cavalry, and infantry. As we noted above, his guiding star inspired him well in his choice of men who could cooperate with him in carrying out his plans. Europe, that nurturing mother, had lent him some of her sons whom he had appointed as heads of his institutions,

and who immediately were found to be equal to their tasks. Today the military academies are flourishing under experienced leaders, the training is sound, and the officers who finish there have the skills required for their various specialties. More than any of the others, the Giza cavalry school on the left bank of the Nile opposite Old Cairo seemed to us to have achieved a level of excellence that would never have been expected from the outset. We watched the drills of three squadrons of cadets, and we certify that their speed, uniformity, and the precision of their movements left nothing to be desired. If they had different uniforms, we could have imagined that we were watching regiments of French troops in front of us. The cavalry academy is a model school. Complete order prevails there together with the most rigorous discipline, and we would dare compare it with our own excellent Saumur academy. Again it's a Frenchman, M. Colonel Varin, the former aide-de-camp to Marshal Gouvion-Saint-Cyr, who organized and now directs it. Here the Turks with their obstinacy in any case had made no headway. The viceroy, who liked Colonel Varin, recognized his skills, appreciated his worthy efforts, and rewarded him by promoting him to the rank of *bey* [*Translator's note*: a former title of honor in Turkey and Egypt].

Polytechnic school. - The Polytechnic school,

established in Boulak in the magnificent palace that once belonged to Ismail Pasha, is dedicated to educating engineers. The instruction is good. But let's not forget that we're in Egypt, a derelict country brutally fought over for a long time until only recently. So let's not demand from the students the same high level of knowledge acquired in studies at our famous school in Paris. Nevertheless M. Lambert, the director, has already achieved significant results. We attended some of the annual exams. We heard the young Egyptians who were questioned on physics, chemistry, astronomy, and mathematics give extremely satisfactory answers. We also saw several drawings of topography and descriptive geometry that without a doubt would have been well rated in our best schools. That may surprise our readers, but it's easily understood by anyone who has met M. Lambert. M. Lambert not only is a very knowledgeable person, but he is also very dedicated. He is good with young people; he is affable and well disposed to everyone, and he is enthusiastically devoted to teaching science. Progress is his dream. Modest but proud of his civilizing mission he opens with love the treasures of his heart and mind to the new Egypt. Mohammed Ali could not find a worthier person

to cooperate with him in his restoration project.

Primary and preparatory schools. - In addition to the professional schools Mohammed Ali established primary schools in the provinces of Upper and Lower Egypt where children ages eight to twelve learn the Arabic language and basic arithmetic. After primary school the smartest students enter one of the two schools opened at Abouzabel and at Alexandria. There they are taught some geography, some history, and elementary mathematics. From there the best ones go on to the professional schools that we have already described to be called upon later to perform public services.

It's remarkable that in these various schools the students are fed, clothed, and housed at the viceroy's expense, and they leave with a guaranteed future ahead of them. Yet despite all these advantages their parents must be forced to let their children go there. It's hard to say which is more extraordinary, Mohammed Ali's noble passion for the knowledge that makes men free or the crushing ignorance of an Egypt smitten with servitude.

This is the broad system of public education that the viceroy established. Thanks to this system and to the strong determination of their leader, Egyptians will be introduced to European knowledge. They will learn the arts and the sciences.

They gradually will shed their absurd and degrading prejudices, and civilization will triumph in this beautiful country that for such a long time has been a domain of barbarity. The army too, we can't overstate, is a wonderful school rich in valuable training for the future of Egypt. In military service Egyptians will learn how to command and obey among other men, to command without overbearing arrogance and to obey without abject subservience. The army will build up their low morale and strengthen their submissive character, so that finally they will become men.

At present the viceroy's wonderful institutions have borne fruit; the present already holds promise for the future. Previously Egypt had been torn apart by the vagaries and violence of anarchy. Today complete order prevails in the entire country. In Volney's time [*Translator's note*: Constatin, comte de Volney (1757-1820), French writer and scholar on the Middle East] going to visit the pyramids was a hazardous undertaking, and the pyramids are more or less at the gates of Cairo. It's now safer to travel across Egypt all the way from the Mediterranean to the Sennaar than it is in Europe. Where westerners once had been despised and mistreated, they now are welcomed everywhere,

and they enjoy a respect that they don't always get in their own country. Fanatical hatreds thus have diminished and the force of superstitious prejudice has weakened in less than a century. Declaring that this is now the state of mind in Egypt is to claim an outstanding result and to commend the viceroy for his performance. But it's known that the viceroy wanted his accomplishments to be protected by his own fortune and guaranteed even after his death. His sons were raised by Christians. He went further; he sent them to France where they were educated in our schools. Growing up among us, imbued with our benevolent and enlightened ideas, these young princes will return home to propagate them in their own country. Thus there is a new impetus for progress, and Egypt no longer will turn back. Egypt and France both will benefit from the liberal education of the viceroy's sons; Egypt by rising to the level of a strong nation, France by recognizing its adoptive sons in a flourishing country where its own influence will grow, based in a way on filial gratitude.

So we've said everything, the bad at first and then the good. But is the good an excuse and a cover for the bad? Does the arbitrariness of power and the present misery of Egypt underlie the viceroy's admirable creations?

We are convinced that no matter how grievous the requirements have been, we can't blame the viceroy considering all that he had established and prepared for the future. For all that, we deeply wish and fervently hope that this terrible oppression will end, and it appears that the time for relief is near. Now that peace has eliminated the necessities of war, the viceroy must reapportion the taxes on the resources of his realm more equitably. Then work in the fields will be easier again, because land made fruitful by the Nile yields so much even to those who seek little from it. The *fellah* who has suffered so much gradually will forget the bad times amid the pleasures of an unaccustomed good life. Mohammed Ali then will be able to silence his detractors. He will astonish those who accuse him of having done nothing for his people and to have worked ceaselessly on his own behalf to satisfy his own pride and ambition. Now the nation that he governs, finally convinced of his benevolent intentions, no doubt will forgive him for the blood that had been shed. But even if that were not so, the viceroy would always have an appeal for them, from the fathers to the children, from the generation dying out to the upcoming one. The new Egypt, praising his memory, will date from his rule an era of deliverance and a destiny of prosperity!

SUMMARY of Chapter IV

Departure from Cairo-- The camel -- The desert of Suez -- M. Hill's carriage -- Hadjeroud Fort -- The Israelites crossing of the Red Sea -- Description of Suez -- Springs of Moses -- Trade and the future of Suez.

CHAPTER IV.

Whoever wishes to travel on the Red Sea and to do more than merely pass through it to view the silent monuments.and the stillness of nature, must start by learning Arabic. Our need to do this kept us in Cairo for several months. But impatient learners that we were and our studies almost done, we scheduled our departure for Abyssinia on the 21st of August. We then got busy buying necessary provisions for the journey. While we await publication of a guide for the desert traveler, we'll summarize our supplies for the trip so that our experience will be helpful for future tourists.

We advise them to bring along rice, dates, raisins, cheese

or any other kind of easily preserved food, coffee, sugar, a few bottles of good wine, paper, ink, candles, a lantern or two, wrought-iron cooking utensils, of course a tent so that they can rest in the shade, and lastly a small portable medicine chest containing simple strong remedies. Without these precautions the traveler caught unknowingly and by surprise would have no resources other than acquiescence and patience.

But one particularly indispensable requirement must be carefully provided for, and that is cash. One must bring along all that will be necessary during the journey and pay careful attention to the specific coinage. The Abyssinians accept only one coin, the Austrian thaler imprinted with the image of Maria Theresa; one also must take care that the impression is clear and plainly visible [*Translator's note*: Maria Theresa (1717-1780) was empress of Austria. The Maria Theresa thaler (MTT) was widely used as currency in the Arab world]. Without Austrian thalers, even if one has a million in French louis or in English guineas, there is a serious risk of starving to death in several provinces in Abyssinia.

We made a bad choice in picking our departure date. That was the exact date for the opening of the French theater in Cairo. How could we not take part in such an event? We had received the invitation letters; we contemplated them with profound regret.

But the impossible never is all that impossible, and many things turn out unbelievably well for the well intentioned! We decided to move everything up. By nightfall our preparations had been completed, the baggage had been loaded on the camels, We ordered our people to leave town via the Suez gate and to wait for us at the edge of the desert. We ourselves, still here, hurried to the theater where the crowd already was gathering from all around.

We'll leave it to others to describe in detail the captivating appearance of the multitude of young women decked out for the occasion: the variety of the costumes, so rich, so ample, so picturesque that the Orient displays even at a small gathering. However we must confess that at the moment of our departure, a more compelling interest had made us almost indifferent to this charming spectacle. We were particularly looking for our brethren of a common mother, the Frenchmen whom the viceroy had placed as heads of his great institutions. There they were in the crowd, and the inauguration of the theater gave us the opportunity to shake hands with them before we left on our trip. The evening ended, but our companions still didn't want to leave.

The torches were lit, the donkeys were brought round, several corks of champagne were cheerfully popped in honor of our expedition, and we set off en route escorted by those who were the most loyal and who insisted on accompanying us right up to the gate of the city.

What a contrast! Just a moment ago in Cairo, a big city, the dazzling hall, the distinguished art, the enchantment of the symphony, the even more delightful singing, the profusion of costumes, the excitement of youth, the diamonds and pretty faces. But now the dark, the solitude and the silence, Arabs in rags, human misery, the wretchedness of the earth, risks and unknown dangers, and the immensities of the heavens and the desert sands.

Our caravan isn't large. It consists of eight camels carrying our belongings and supplies for the journey, an Ethiopian slave named Faratch whom we bought in Cairo for 375 fr., and our handyman, a jack-of-all-trades of the black race, Saïd, a useful chap, interpreter, hunter, taxidermist and cook, everything as the occasion warrants and without changing his clothing.

So here we are, learning the Bedouin life. We declined to use M. Hill's carriage, likewise to ride the donkey,

honest and courageous animal that it is. We wanted to venture into the desert without the help of present day civilization, and on the camel, the authentic ship of the desert, to give it its real name.

The Arab bedouin is not mistaken when he sees the camel as a gift from heaven. Without the camel, the forbidding desert would not allow him to do more than pitch his tent. With the camel, the solitude becomes a part of his life and his freedom is assured. The camel feeds and clothes him, gives him its hair for clothing, its milk to quench his thirst amongst his own people. Saddles, bridles and all kinds of harnesses are made from the camel's hide. Camel's meat makes excellent meals when cooked over a bright fire fueled by dried slabs of the camel's dung, Even the urine is of interest in certain parts of the Orient where sal ammoniac is extracted from it. In the end the camel is the Arab's horse, it's a sort of ship of the desert, the vessel on which he transports his merchandise over a sea of sand, a clever vessel, and to complete the metaphor, an admirable beast of burden, always willing, always gentle, always courageous in its work. The minute it hears its driver's voice, the camel kneels down,

bends its hind legs, and lies down on its belly without the slightest hesitation. This is its position to be loaded and mounted. When it gets up again, it's the only animal that begins by first straightening up its hind legs. But even though it's a servant devoted to its master, it wants its master to abide by its devotion and to treat it as a servant by sparing its strength. Before the camel stands up, it judges its load; if too heavy, it refuses to obey. As a rule, unless the journey is extremely short, the Arab barely will load 200 kg. on the camel's back. A hundred camels loaded up this way make up a caravan traveling at an average speed of 3.5 km. per hour. The ones we were riding covered a post-stage league [*Translator's note*: about 2.4 miles] in the same time.

Four hours after we left the horizon reddened and was ablaze with the first rays of the sun. Soon the vastness of the desert filled with the light of the new day. Only then were we able to judge the condition of the places we were traveling through.

The desert from Cairo to Suez presents a monotonous view of a barren plain that stretches as far as the eye can see. On all sides desolate rocks, burning sands, bleached hillsides, dried-up ravines

where rain water once flowed. Nevertheless it must be said that in the last few years the re-birth of civilization has displaced the desert's imposing solitude. The route we followed is a well-traveled one. Foot travelers, horseback riders, caravans of camels and donkeys, or the service organized with M. Hill's carriages; every day there are those who leave their footprints in the sand, others their tracks along a beaten path. That's not all; industry has boldly taken charge of its recent conquest. Small houses implanted in the sand seem to defy their terrible and deadly surroundings. There are seven of them numbered in order about four leagues apart. An English company built them but they now belong to the Egyptian government, which recently has taken over transporting travelers from Cairo to Suez.

The interiors are arranged differently in each of these buildings. Numbers 1, 3, 5, and 7 are nothing more than stables. The others, by contrast, have a kitchen, a dining room, and a living room furnished with divans in oriental fashion. We did not visit number 4; we were told it's a complete hotel

where travelers who take the Egyptian company's carriages can stop for a meal. We use the generous term "carriages" here, but the reader had best understand that they are uncomfortable, very poorly constructed old coaches with even worse suspension. But they deserve credit for being well hitched up and they do shorten the desert crossing by eighteen or twenty hours. The carriages leave Cairo on a particular day to connect punctually with the English steamboats on the Red Sea. A seat costs 350 fr. per person.

Thanks to the French steamers on the Mediterranean, the Egyptian company's carriages, and the English steamboats on the Red Sea, news is received regularly from the Indies. Here is a list of the stages of this long trip with the time required for each one:

London to Paris.	2 days.
Paris to Marseille.	3
Marseille to Alexandria.	8
Alexandria to Cairo, . .	1
Cairo to Suez.	1
Suez to Bombay.	15
TOTAL.	30 days

Thirty days instead of a hundred and fifty,

one month instead of the roughly four that it once took to make the trip around the Cape of Good Hope. Enough said.

Our first stop was at noon. A few hours rest allowed us to get back on the road refreshed. But if rest adequately refreshes a disciplined walker, it just conceals the fatigue of an inexperienced one. Around six in the evening we were overcome by the heat; bruised and stiff to the point where we couldn't go one step further. Added to the heat was the even more unbearable torment of thirst. Our tongues literally clung to the roofs of our mouths. The setting sun, thank God, was our signal for a second stop. Here we were at a stopover pleading by hand gestures for a little water to recover the use of our tongues. After the first gulp we looked at each other with astonishment; the second had us make a wry face. What was happening? Were our feverish throats imparting a bad taste to the most precious of all things, this water that Pindar of old had praised so enthusiastically? Alas! The most priceless thing of all strangely had lost its value. The heat, the motion, the leather of the new bottles, had spoiled it. Our camels weren't carrying anything better than swamp water.

Never mind. The sun had gone down below the horizon. An evening breeze came up; we stretched out on our rugs and rested up the way it's done, horizontally from head to toe. Our spirits improved after that minor misfortune, and we enjoyed our evening meal as much as if we were in a good hotel with fine table service. Coffee came afterwards. The water somewhat spoiled the fine mocha powder, but on the other hand the mocha had improved the water. A few cups handsomely topped off our supper and we fell asleep on the sand. Already half asleep we dreamed that God had renewed for us the miracle where He chose to help Hagar, the mother of Ishmael [*Translator's note:* Genesis 21: 17-19].

On the 22nd we were on the road before daybreak. The first rays of the sun revealed bleached skeletons glistening like silver on the sand and marked the road for us in a very somber way.

We proceeded for several hours on the desert through the remains of dead animals that the fiery sun and burning sand had quickly turned into skeletons, and that the careless Arabs had not bothered to bury. Around midday our little caravan found itself at an old acacia tree

at the midpoint of the Cairo to Suez route. Seen from a distance, it marks the boundary of the desert. This acacia is remarkable for two reasons; first because of its isolation which makes it look like an small islet in the middle of a sea of sand, and second because it is revered by Muslims who festoon it with rags.

No pilgrim returning from Mecca would overlook hanging a strip of his clothing on it. You can guess what all those filthy sacred relics look like.

At that same moment we passed the carriage of Messrs. Hill and Wagorn. It was filled with travelers arriving from India. The carriage greeted our caravan with shouts of joy. Our caravan answered this fraternal greeting with their best. It must be said that the travelers from Bombay appeared delighted not to have to undergo more than a few hours on the road remaining between where they were and the capital of Egypt, between fatigue, the tedium of a difficult trip, and relaxation and a feeling of well-being, ease and comfort. Hardly wishing to be overtaken by despair in the desert, they summoned the help of their cheerful imaginations, their warm spirits, that good wine will convert to rubies or topazes. They happily emptied a bottle of the best wine, and we listened to

their loud singing for a long time. The lively spirits, cries and gestures so new to the bedouin, the bold courage in the face of solitude itself, a sort of defiance hurled into the overwhelming silence, into the severe austerity of nature's desolation, seemed to electrify our Arabs for a moment, and they cried out in turn: "*El Frangi chaïtan! El Frangi chaïtan!* - the French are devils." They were cheered up, they crowded around our interpreter who had lived among Europeans for a long time, and they took pride in questioning him about customs, behavior, and practices in our country. Saïd was only too glad to praise us. In another way it would have been a problem for him to disappoint his listeners without being aware at that moment that he was close to thinking of himself as half European. But European or Nubian, in true Oriental fashion he began a marvelous and fantastic recitation about France and England, their government, religion, military, arts and industry. What he knew and what he didn't know, what he had heard and what he imagined, what he had understood and what he hadn't understood, everything passed in review, up through natural history, his favorite science of which he was justifiably proud since the time that he knew how to stuff birds quite skillfully.

Never had exaggeration been given such free rein. Never had improvisation triumphed with such self-satisfaction. We again watched the Arabs, their very souls hanging on Saïd's words, following his slightest movements with their eyes, slowing down for fear of missing one syllable of this beautiful story, more beautiful than the stories of The Thousand and One Nights; interrupting the narrator with frequent shouts, then parting company sadly and saying resignedly: "what a pity that the people who accomplish so many miracles are not Muslims!"

As to Saïd, he was magnificent to the end. Warmed by 35^{O} C. temperature, his imagination did not let up, and he regarded us proudly as though we were there to bear witness to the truth of his accounts.

Around midday we made a stop, as we had done the day before. The heat was insufferable. At noon a thermometer inside our tent one meter above the ground read 40^{O} C. Lying on the ground itself it rose to 60^{O}. Anyway, at two o'clock we repacked our bags. Our interpreter took his regular spot at the head of the caravan, and we continued along our route. After marching several leagues across the constantly burning sand we noticed a black dot in the azure sky slightly above the horizon.

As we moved forward the black dot seemed to separate from the vault of the sky, and as it enlarged little by little, it appeared to us like an indistinct mass that obscured the end of our route. This black dot, this indistinct mass, was the fort, or the small citadel, of Hadjeroud.

When we reached the base of the wall, our camels, who sensed water nearby, stopped on their own, and we dismounted right away. This was not on our guides' agenda. They had their plan. We were to stop only at Suez and to head down there that same evening. In their wisdom they already had decided that. Regrettably our fatigue coincided exactly with our animals' instincts. We announced that this was a good spot, and we wished to spend the night. The poor devils were greatly disappointed. When guides in the Orient are in a bad mood, they rarely show it by rebelling. Ours tried to dissuade us with a thousand good reasons. We didn't want to hear any of them. They imagined that they could scare us with very depressing stories and quite ingeniously contrived tales about robbers. It all proved useless. We had learned, at our own cost, their irresistible argument: " *Allah kérim*! - God is great!" that our men never ceased repeating to us each time that we tried

to get them used to the notion of care or planning - "God is great!" we answered in turn. "If we are attacked, we will defend ourselves." In the end Saïd resigned himself to setting up our tent. As soon as it was ready for us we flung ourselves down onto the rugs, where we remained until morning without budging or moving our lips, like statues thrown down from their pedestals.

The Hadjeroud fort, occupied by a small Egyptian garrison, was nothing special. As with almost all of the other Turkish citadels, the walls have fallen into ruins. Brambles, thistles, and parasitic plants have grown among the stones and covered them under a jumbled mass of foliage. Not one cannon on the gun carriages, no moat to defend the approach to the ramparts, no guard house suggesting the slightest supervision. Even in this sorry state the Hadjeroud fort nevertheless was sufficient to hold off the Bedouin, who never dared attack an enemy dug in behind a wall.

Inside there is a well two hundred and fifty feet deep with huge stone basins. The water that comes out of the well is brackish, sulfurous, and has a most disagreeable taste. But it airs out in the large basins, and when the dew has collected

it ends up becoming sufficiently potable. The next morning before we left our guides watered the camels there, and we set off for Suez which was no more than two or three hours away. On our left was the route followed by the wandering Israelites led by Moses and carrying with them the bones of Joseph. To escape the wrath of Pharaoh they headed toward the Red Sea. No one has forgotten this magnificent episode in the history of the Hebrews. Exhausted by fatigue and with the Egyptian army in close pursuit, the twelve tribes cried out reproachfully: behind them an enraged Pharaoh, all around them the relentless desert. In despair, they blamed Moses.

[*Translator's note*: the translation of the following passage is based on the King James version of Exodus 14: 11-14, 21-23, 26-28.]

"Because there were no graves in Egypt hast thou taken us away to die in the wilderness? Wherefore hast thou dealt thus with us, to carry us forth out of Egypt?

"Is not this the word that we did tell thee in Egypt, saying, Let us alone that we may serve the Egyptians? For it had been better for us to serve the Egyptians than that we should die in the wilderness."

And Moses said unto the people, "Fear ye not, stand still, and see the salvation of the Lord, which He will show to you today: for the Egyptians whom ye have seen today,

ye shall see them again no more for ever.

"The Lord shall fight for you, and ye shall hold your peace."

"And Moses stretched out his hand over the sea; and the Lord caused the sea to go back by a strong east all that night, and made the sea dry land, and the waters were divided.

"And the children of Israel went into the midst of the sea upon the dry ground; and the waters were a wall unto them on their right hand, and on their left.

"And the Egyptians pursued, and went in after them to the midst of the sea, even all Pharaoh's horses, his chariots, and his horsemen.

"And the Lord said unto Moses, Stretch out thine hand over the sea, that the waters may come again upon the Egyptians, upon their chariots, and upon their horsemen.

"And Moses stretched forth his hand over the sea, and the sea returned to his strength when the morning appeared; and the Egyptians fled against it; and the Lord overthrew the Egyptians in the midst of the sea.

"And the waters returned, and covered the chariots, and the horsemen, and all the host of Pharaoh that came into the sea after them; there remained not so much as one of them."

One can easily imagine the dramatic impact that this beautiful recitation has on one's mind at the actual place, at the sea itself, the immortal words bearing everlasting witness. The exact spot where the Israelites crossed had long been contested among the critics; but it has just been resolved with undeniable authority in the latest work of the scholar M. Fresnel, the consul in Jeddah, and of M. Linant, the inspector-general of bridges and roads in Egypt.

The Israelites crossed the Red Sea several leagues to the northwest of Suez. Today that place is covered over with sand, seashells, and ocean debris. It was once the seabed itself, as we will demonstrate in the two chapters that follow.

It's not up to us to debate the text of Scripture. It's for others to choose between Moses' testimony and that of the priests of Memphis, which Artapane tells us is doubtful. Let the theologians dispute the course of the journey, whether the Hebrew people proceeded along the sea, or whether they crossed from one shore to the other. Dom Calmet has laid out the conflicting opinions in an honest and scholarly dissertation. For our part, it's not our purpose here to search for direct evidence of

the divine right hand of God, or for human wisdom wonderfully disguised under the veil of poetry. We report only what we have seen. Near Suez, still today and every day, the sea becomes fordable at ebb tide. We recall that on December 28, 1798 Bonaparte wished to attempt the crossing. He actually made it, but he had chosen the wrong time; the rising tide almost engulfed him. The future emperor owed his escape only to his guide's presence of mind. With a delay of quarter of an hour, the death of a single man would have changed the destiny of the world.

Beyond these considerations, our need to finally move on, our wish to drink a little potable water strongly urged us to keep going on our journey. We drove our dromedaries into a gallop; two hours had scarcely gone by when we perceived the minarets of Suez rising above the blue of the sea. At half past nine we entered the town through the large gate on the desert side. Let's start by acknowledging all our gratitude to M. Costa, the French consular agent. Our first obligation was to pay him a visit. He received us graciously and most cordially; his influence fortunately was helpful on our adventurous excursions.

There's nothing so refreshing as the chance to take a rest. We barely had lain down on our rugs when we got up again, awakened by the traveler's restless spirit. So here we were already looking around town in order to determine its topography.

Suez is located on the west shore of the Arabian Gulf at 29° 58' 57" north latitude and 38° 15' 75" longitude east of the Paris meridian. Once an opulent city, it has retained nothing of its former importance. It is populated by Arabs, Copts, Turks, and Armenians, and such a very small number of them, a little more than twelve hundred, a little less than fifteen hundred inhabitants! A few mosques, a small Greek church, four or five *oquels* shading some tumble down ruins. That's all that draws the outsider's attention on his arrival. Dirty narrow streets, inconvenient docksides, the suburbs around the town are the desert, the countryside is the desert, and everywhere there are pathetic and poorly supplied markets, In this sandy plain there are no gardens to be enjoyed, not a tree to be seen, not even a fountain where one can quench one's thirst during the stifling daytime heat. The inhabitants, with only brackish water for drinking, must still fetch it from several leagues away on the other side of the gulf.

Furthermore a leather bottle costs one piaster (the bottle holds twenty-five to thirty liters). During severe drought the price sometimes goes up to nine or ten piasters, i.e. forty or fifty cents.

The Springs of Moses (*Aïoun Mousa*), located on the Asian shore about three leagues southeast of Suez, are more plentiful and better known. These springs memorialize a way station of the Hebrew people in the desert. That's the place where the Israelites stopped after they crossed the Red Sea. That's where they sang the sublime hymn: [*Translator's note*: Exodus 15: 1. King James version.]

" I will sing unto the Lord, for he hath triumphed gloriously: the horse and his rider hath he thrown into the sea."

The Springs of Moses consist of about fifteen conical hillocks with openings along their axes forming sorts of artesian wells of the same number.

The water that flows out of a hillock carves small furrows on its outer surface and continues that way down to the seashore. It supports flourishing vegetation around the spring, an oasis of shrubs and palm trees whose greenery is a rest for the eyes in the midst of its barren surroundings.

The highest of these springs rises about fifteen feet above the lowest one.

The latter is nineteen or twenty feet above sea level.

A few of these springs overflow their limits and are surrounded by a swamp. Some others are sanded in. Two or three don't flow at all. The water arriving inside those hillocks at the level of the reservoir supplying them has lost all of its force and remains stationary.

The temperature in these springs varies from 15 to 20 degrees centigrade. Only the coldest ones have potable water.

Not far away are the ruins of a large installation for fresh water constructed by the Venetians during the middle ages. After the discovery of the Cape of Good Hope, these rulers of the sea had to defend their empire against the Portuguese. As we walked along the shore, we discovered two aqueducts whose traces still are easy to follow underneath the sand that covers their remains. One of these aqueducts was intended to collect the spring water through small underground channels into a central large stone basin. However, the other one was meant to recover the water from the basin and to convey it to the beach for delivery to ships arriving there for supplies. With little money and effort

this former structure for supplying water to ships was re-established and the port of Suez was revived. On an arid coastline where a drop of drinkable water is almost worth its weight in gold, there is nothing more urgent than restoring a fountain that could supply necessary water for all the needs of active navigation and substantial trade.

In the present state of affairs, trade is languishing and dying in Suez. Monopolies, prohibitions, all sorts of restrictions, have dealt it a fatal blow.

The situation can be judged based on the list of various goods, both imported and exported, upon which all trade turns. We have listed them in the way that several merchants in the country gave them to us. We add that merchandise monopolized by the pasha is not disclosed here.

EXPORT :

Cotton fabrics. . . .	35,000 fr.
Various muslins. . . .	120,000
English muslin.	100,000
White and gray paper. . . .	100,000
Hardware.	110,000
Grecian mastic.	60,000
English *kohll*. . . .	. 60,000
Coral for fishing areas.	100,000
Imitation coral, .	30,000
Glassware.	.120,000
Saffron.	. 20,000
Sulfur rods.	. 10,000
Mohebb (grain from Asia Minor). . .	. 60,000
TOTAL.	.1,240,000.

The import trade, particularly after the viceroy of Egypt kept the coffee cartel for himself, is now much less. Here's what it consists of:

Gum arabic.	400,000 fr.
Various spices. . . .	330,000
Incense	100,000
Tombac . . .	30,000
Textiles from India. .	300,000
Various cotton goods. .	21,000
Cocoa beans.	10,000
Aloe wood, myrrh, incense and various perfumeries. .	60.000
Slaves.	30,000
TOTAL. . . .	1,280,000.

This trade is carried out by a hundred and twenty or a hundred and forty barges of one hundred to two hundred tons. Of these barges, twenty-five belong to the pasha, forty to the town's merchants, and the rest to ship-owners in Jeddah, Iambo, or in Cosseïre [*Translator's note:* possibly Yenbo and Quseir, ports on the Red Sea].

In Suez, as in all of the ports on the Arabian Gulf, imports are subject to a 10% customs duty. On the other hand, there is no duty on exports. It would seem that this freedom should attract many barges to Suez. Unfortunately this natural outcome

is paralyzed by oppressive regulations seemingly designed to deliberately discourage trade. Thus all Arab barges anchored in the port of Suez can be requisitioned when needed in service to the viceroy. True, the viceroy grants them an indemnity, but the indemnity, which he himself has taxed, is always less than the usual price of the freight. All barges furthermore are subjected to annoying police interference. All are under the *dam*. i.e. an order to sail around, which causes them to lose valuable time and involves considerable expense for their crews. Furthermore, importing coffee is prohibited. Certain goods, lead for example, may not be exported. And in no case, unless a special favor is granted, are foreign vessels allowed to load cargo. So there you have a picture of the extraordinarily burdensome regime that weighs upon the Egyptian ports of the Red Sea.

These restrictions, perhaps unique in the world, unquestionably make the Red Sea into a veritable Egyptian lake. But at the same time they also have the most grievous consequences: they confine the extent of Egypt's commercial relations, and they impede the development of the merchant marine in the Arabian Gulf.

Mohammed Ali himself would do well to improve the regime of his ports, to implement regulations consistent with his interests and with customs that prevail among European nations. We await such reform. Until the day that it's announced, the fortunes of Suez will continue to decline. But modifying the customs and police won't be sufficient. Other improvements are equally necessary and perhaps even more urgent. For a long time ships no longer arrive at the town itself. The landings are too shallow, forcing them to stop in the ship passage a league further south. As a result, they must be loaded or unloaded by tenders. An affluent trade would not allow for this disruption, which makes it vulnerable to countless hazards. It's important that the Suez Canal be dug as soon as possible, and that an effort be made to clear the port of sand [*Translator's note*: the Suez Canal was opened in 1869].

It would be a good idea to resolve this problem by building another town along the waterway itself. All the advantages would follow together: a secure harbor, time saved in loading and unloading the ships, proximity to the Springs of Moses, and finally, the benefit of having a large port located practically opposite the *vallée de l'Egarement* [*Translator's note:* Valley of Wandering],

which connects the capital of Egypt to the shores of the Red Sea. Furthermore, it would be necessary to thoroughly fortify the ship channel and to fully defend its entrance with gun batteries. It must be cleared of the rocks that are visible at the water's level, and to shelter it from the southeast winds that sometimes blow with force across the Red Sea. Lastly, capable engineers must be assigned to locate points close together along the shore that could be suitable for anchorages, to identify them, and to properly prepare them to take on shipping.

The town of Suez surely will be a completely different place once these projects have been completed and as soon as the new port can provide all of the resources required for navigation. If shortsighted monopolies don't try to take back these gains, and if the two seas are connected by a canal accessible to all shipping, it's certain that the town of Suez will undergo a complete change. Merchants of all nations will establish their residences there. The town will see thousands of vessels loaded with the most precious wares from Asia and Europe pass beneath its walls. Within a short time it will achieve the great importance destined for it by its wonderful position at the center of the Old World

between the Mediterranean and the Red Sea, and after a few years it will become the principal route from the Indies.

But now we must take a look at the geography of this sea.

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SUMMARY of Chapter V

The Red Sea, its average width, navigation in antiquity -- Elevation of the mountains surrounding the sea's basin and their composition. -- Description of the shores of the Gulf, their appearance and their mineral springs. -- Recent deposits of shells and madrepores along the length of the Gulf; the extent of these sediments. -- Islands in the sea. -- Description of the solfatara of Jebel Dukhan. -- List of groups of volcanic origin. -- Appearance and shapes of the islands that make them up. -- Composition of the principal islands in the Red Sea. -- Shells and corals found there. -- Height of some of these deposits. -- Depth and composition of the sea bottom.

CHAPTER V.

Confined between Arabia and the African coast, the Red Sea (*Arabicus sinus*) stretches from the northwest to the southeast, from 30^0 to $12^030'$ north latitude. It is five hundred thirty-seven leagues long, and its average width is twenty to twenty-one leagues. During antiquity this sea had a grand and glorious history. Even independently of the biblical accounts and the miraculous traditions associated with it, it was the center of great maritime and commercial activity. We know the splendor with which the queen of Sheba traveled along its shores on her way to visit Solomon and the sumptuous gifts loaded on the vessels of this affluent ruler.

During that period Ezion-geber [*Translator's note*: near Elat, Israel, on the Gulf of Aqaba] was the departure point for several voyages to explore the African coast as well as the banks of the Ganges and the great Indian archipelago. After that, navigational activity did not slow down. Greek, Roman, Portuguese and Turkish fleets plowed the waters of the Red Sea in every direction. To bring an end to the traffic of these sailing vessels, Vasco da Gama had to round the Cape of Good Hope and open a sea route to India for merchant ships.

The valley that encloses the waters of this famous gulf offers an immense field for scientific research. It's formed by a circle of picturesque mountains. The northernmost ones, only ten to twelve meters high, go around the Bitter Lakes and separate the Mediterranean Sea from the Gulf of Suez. Though not very high in Egypt, these mountains often rise to considerable heights in Arabia, Nubia, and Abyssinia. For example, on the west coast of the gulf:

Mount Elba rises to.	2,090 meters.
Tarenta, to.	2,543
Sinai (eastern shore), to.	2,285
Mount Horeb, to.	2,619
Peak of Mohila, to.	2,700

And Mounts Réma and Sober in Yemen,

almost continually frost-covered, seem to be higher than the other peaks.

In the upper region beyond Suez up to Hamam-Pharaoh the two mountain ridges that border the gulf consist in general of sandstone, dense limestone, and gypsum.

From Hamam-Pharaoh to Ras Muhammad their composition changes. They're made out of syenite, granite, gneiss, or porphyry, but these rocks never appear close to the shore, or at least it's rare for them to appear in the open there.

In some locations, at Cheroum and at Ras-Abu-Soar for example, they're covered with crumbling limestone containing many fossils; elsewhere they're separated from the seashore by hills of sandstone, clay, or gypsum. The sandstone is three leagues northwest of Tor; it's clay southwest of Saleka on the road from Nuweiba to the Santa Katerina convent, and gypsum at Cape Ghimjé, where it's mixed with large fragments of sulfur that they say was mined there in antiquity.

Furthermore, nowhere in this region did we see any craters, lava, ashes, nor any signs of recent volcanic eruption.

From the Gulf of Aqaba to the straits of Bab el Mandeb the mountains that encircle this sea have hardly been explored. In general they're formed of rocks from primitive and volcanic terrain. The former predominate in the upper region; on the other hand, the rest are found more often in the lower region.

Along the coast of the Hijaz porphyry, syenite, granite and gneiss are found at several points on the Arabian chain between Mohïla and Magna. These form huge masses of rock on which recent deposits of seashells and madrepores have piled up near the sea apparently as a result of recent upheavals. Further south these same rocks reappear at Dumagah in the vicinity of El Ouïch, in the passes of Yanbu, and again are found in the Hijaz at high elevations above sea level. This occurrence makes us believe that they compose the terrain of this vast province. But we lack precise information about that, and we only can come up with simple guesses. Regardless, in this part of Arabia trachyte and basalt have considerably modified the outline of the terrain.

At intervals south of Jeddah their picturesque peaks crown the plateaus and mountain tops. The further south one goes the more prominent they become, and approaching Yemen they form almost the entire high part of the terrain. Because of this formation the mountains that border the sea from Hali down to the straits of Bab el Mandeb take on a totally unique appearance. When viewed from the sea they appear as a disorganized mass without regular stratification that display bold and picturesque forms, some like a dome, a tower, others like a prism, a pyramid, or an immense colonnade. Their surfaces are covered with rough patches, their slopes descend almost vertically, and the rugged sides enclose steep valleys with clear streams at the bottom that bestow life and abundance everywhere along their way.

The mountains on the opposite coast likewise present all the irregularities of long ranges. The nature of the rocks that form them varies depending on where one is going over them. From Massawa to Dixah they are formed of granite, syenite, pegmatite, protogine, talc schists, and gneiss

going from northwest to southeast, i.e. parallel to the coastline. Granite is found in enormous blocks at the foot of the Tarenta and in several districts of the Tigré. It forms most of the mountains separating the Red Sea from the valley of the Nile. Nevertheless, other rocks also make up this range. Between Keneh and Quseir from east to west there are three leagues of gypsum or compact limestone, twelve leagues of shale generally from primitive terrain, and six leagues of breccia and quartzose conglomerates. In the midst of these we noticed large masses of granite and five leagues of chalky and quartzose sandstone, whose residue covers the bottom of the valley leading to the Nile.

The breccia and conglomerates found just about halfway along are rocks that several travelers have called red and yellow marble and soft porphyry; they indicate the transition from sandstone to gneiss and seem originally to have been only sandstone and later modified by contact with the masses of granite containing them.

Here as in the Tigré, granite forms the under layer of the ground in Egypt. Above Keneh it frequently appears at the surface,

blocking the riverbed of the Nile at several points and presenting large obstacles to navigation. Fifteen leagues east of Keneh it reappears among conglomerates and shale that it has crossed through. Near the sea it's again found amid limestone where it has overturned the layers and made them incline from north to south.

In addition to the rocks that we have just listed, the mountains of the west coast often reveal at their bases and summits diorite, trachyte, basalt, and even rocks that originate from recent volcanic eruptions. Bruce, on his way from Keneh to Quseir, when he neared the sea he crossed blackened, charred mountains, rough with rocks that resemble the stones found on Vesuvius. But this traveler pointed out that trees and plants grow on the sides of Vesuvius, whereas the mountains here are completely barren and bear no vegetation at all.

Along the coast in the vicinities of Ras Cherayir, Ras Billoul, Jebel Abu Loulon, Jebel Sidjean and also in several places beyond the strait of Bab el Mandeb, the terrain everywhere shows traces of incendiary activity underground. The same is true for the whole country of Adels,

from the Indian Ocean to Choa over a distance of more than one hundred and thirty leagues.

In this entire region, the color of the mountains, the nature of the rocks, the almost complete absence of vegetation, and the composition of the ground remind one of the volcanic terrain in Italy. Near Alaxitane, Gadgadé, and Nahellé, for example, a number of elevated cones twelve to thirteen meters high rise up in the midst of vitrified lava; they look exactly like the vents on a volcano that emit lava during an eruption. "Nowhere else in the world" says M. Rochet who describes this curious country, "are there so many extinct craters and so much lava spread over the surface of the ground. No water flows through and fertilizes the contours of this land, ravaged by underground conflagrations and blazing under the tropical sun. . . . . .

"Here there is only monotonous mediocrity; almost everywhere are hills with rugged slopes and long hilltops dotted with small cones, the extinct vents of volcanoes from which huge rivers of lava once flowed."

Along the African coast, the foothills of the mountains of which we have just given a general picture, are not very far from the shore.

They often end vertically at the water's edge, as they do a league from Massawa.

On the other side of the sea it's a different story. Almost everywhere the mountains are at some distance from the shore. So there is a strip of land, salty and uncultivated, about eight to ten leagues wide on average, called Tehama, more specifically *Khabt,* in the wilderness region between the mountains and the shore of the Arabian gulf.

This is a low, alluvial plain, not very picturesque, damp, sandy, composed of gravel, shells, and madreporic rocks. The oppressive heat that scorches this country for nine months of the year, the relentless fevers that afflict one's person, and Muslim fanaticism as well, have up to now prevented Europeans from building naval establishments on this coast. Nevertheless, at intervals there are very well constructed villages and towns with well-known names. In the interior are Abu Arish and Beit el Fakih, the former capital of Tehama; along the coast are Arabia's most important ports, Jidda, Loheïa, Hodeïda, and Moka.

Because of the proximity of the mountains, there are no large rivers along the coast. There are only brooks and small streams,

and most remarkably, these brooks and streams are almost all swallowed up into the ground not far from the mountains where they originate. As far as we know, the stream of Hali is the only one that delivers its gift of water down to the sea throughout the year.

The same phenomenon occurs on the west coast. One is aware of the scarcity of fresh water along the entire Arabian Gulf. From Suez to Moka, over a distance of more than five hundred leagues, it's rare to find a spring near the seashore to quench one's thirst; nothing but brackish springs with water that usually tastes like salty milk and which is very hard to get used to. To deal with this problem, the inhabitants have dug cisterns in the madreporic rock into which they channel water from downpours during the rainy season. This resource usually is sufficient, but if there is a lack of rain during the winter, the cisterns dry up. One must go an extremely long way into the mountains to look for water, and its cost becomes exorbitant.

In Yanbu during April, 1839 a leather bottle (25 liters) of fresh water sold for 20 piasters or five pounds. Slightly brackish water sold for 18 piasters and completely contaminated water for 5 piasters.

If springs with drinkable water are extremely rare on the coast of the Arabian Gulf, a meager compensation is that in contrast there are few other countries in the world that offer as many thermal springs. In the preceding chapter we mentioned the Springs of Moses (*Aïoun Mousa*) near Suez that have a temperature of 16° to 20° centigrade. In addition there are the sulfur springs of Hamam Pharaon on the seashore, Hadjar el Ma near Tor' de Ezzerka, Souk el Saffra, Rabegh, and Khales in the mountains bordering the sea. Further south, five hours northwest of Lith, are the mineral waters of Saffra which the Arabs believe have beneficial properties. Furthermore, on the west coast is the hot water stream that Father Sicard came across on his journey along 29° 30' north latitude, and the petroleum well of Jebel-Zeit (mountain of oil) exploited in ancient times, the Aylet thermal spring five leagues west of Massawa, and finally all the ones that travelers have described in the country of Adels, at Amoïssa, at Kilalou, Haoullé, and in a number of other places. The total number of these springs is about 40 to 45. Several are situated at the bases of mountains of volcanic origin, others are next to very recent limestone hills.

Almost all are in desolate, arid, and often extremely hilly country. Some are heated in strata deep inside the earth, indicating deep fissures in the earth's crust. The ones at Haoullé, for example, they say have a temperature of 80° Réaumur [*Translator's note*: this is the boiling point of water on the Réaumur scale].

It would be interesting if there were an accurate analysis of the water together with this temperature reading of the Haoullé springs. Science in that way could get some hard data, and by comparing these later on with other similar data, it would draw valuable inferences to resolve the most interesting questions about the cooling of the earth.

Needless to say, the lack of streams and the scarcity of fresh water plus the sandy nature of the soil have made the shores of the Red Sea an uncultivated wasteland that looks scarcely different from the deserts of Egypt and Arabia. However, there are a few exceptions to this rule: on the west coast they are the vicinity of Moucoullou, and on the Arabian coast those of Tor, Aïnounah, Yanbu el Nakel, Zebid, Beit el Fakih, Osseb, and Hès. In most of these districts there are wells and irrigation canals for lands and fields that are quite well cultivated.

There they harvest sesame, indigo, madder root, cotton, various species of sorghum of the genus *sorghum vulgare*, species of maize, *dougn* (*panicum spicatum*), the jujube tree, and several other plants that are as useful in industry as they are in the domestic economy.

There is a significant feature that we must not overlook. At various points along the entire stretch of this coast there are organic deposits that mostly resemble the remnants of animals that live in the Arabian Gulf. In some places these remains are scattered over the surface of the ground. In others, by contrast, they form often quite large deposits that extend along the shoreline.

On the shores of the Bitter Lakes, which we will describe in detail later, they form rows that look for all the world like those left on the beach by high tide. They're found in piles of sand, of rolled pebbles and shells that mark the original water level.

South of these lakes the desert as far as Suez exhibits saline crusts, madrepore fragments, and the remains of seashells. As high as the Persepolis monument [*Translator's note*: a platform supporting the ruins of the ancient capital of Persia], the shells are so numerous that when we saw them,

we thought that we were looking at a branch of the sea dried up by evaporation.

From Suez to Ras Muhammad the eastern shore is full of similar deposits. They are mainly in the vicinity of the Moses' Springs, on hills two and a half leagues southeast of Hamam Pharaon, and on those that border the seashore from near Tor as far as Hadjar el Ma. These hills are about 500 feet above sea level. Near Tor they are made up largely of madrepores and petrified shells, which are no different from those found on the beach.[1]

What appears on the coasts of Arabia Petræa likewise are seen on the coast of the Hejaz. The promontory of Ras Furtuk consists of alluvial deposits and madreporic rocks. But these are rocks are remarkable! They form a single bloc with those in the sea at the tip of the cape. From this point to the Isle of Namahn at 27°41' north latitude, the coast presents a unique aspect;

[1] The level terrain extending northeast of Tor up to the foot of the slopes of Hadjar el Ma for a distance of one league is not very elevated. This range of hills, 300 feet high, consists of parallel layers of coralline limestone. The many petrified shells contained in them reflect the same species that now still live in the nearby sea. (Rüppel, *Voyage en Abyssinie.*)

it is deeply carved out and very difficult to access. At intervals there are natural bays bordered with masses of coral that rise 80 feet above the sea and have the same composition as the nearby islands. Below Namahn as far as El Ouïch the same features appear almost everywhere, except that the phenomenon that we describe often occurs on a much larger scale. Even at El Ouïch the seashores are formed by very recent encrustations consisting largely of limestone clay, coral fragments, and fossil shells whose analogues still inhabit the Arabian Gulf. These encrustations are 40 to 50 feet above sea level. They are covered by a huge plain full of gravel, sea salt, and rounded shells that probably once had been submerged in the waters of the Arabian Gulf.

Southeast of Jebel Hassani the entire shoreline for a distance of several kilometers is scattered with reefs of madrepores intersected by salt-water lagoons. At several points these coral reefs connect to ones in the sea and border the shore at intervals as far as the heights of Rabah. They are seen mainly in the vicinity of Iambo, at Cherm Bureykah, at Ras Abiad,

at Ras Duleïdelah, and at several places further south. "The west coast" M. Prax points out when he describes this sea "encroaches more and more into the basin of the Red Sea, and one can notice mountains or large plains that at one time were covered by the waves. The sea receded, and the mountains, which formerly were the product and habitation of innumerable animals, now have become the abode of man. It all allows one to suppose that the land upon which Yanbu el Bahar or Yanbu de Mer now sit originally had been a reef that in the end became joined to *terra firma*[1]."

The town of Jidda farther south is built on sloping ground that likewise seems to have been covered by the waters of sea. In the vicinity rise hills that belong to the present period, where there are large amounts of coral fragments and seashells. Niebuhr examined these deposits closely and remained convinced that the madrepores forming them are no different from the other rocky corals of the gulf. Just to see them, said this traveler, and to compare them with those that are so abundant near this shore and even in the port of Jidda,

[1] *Bulletin of the Geographical Society,* p. 15, 1841. *Journey from Suez to Medina,* by M. Prax.

is sufficient to conclude unequivocally that in this region the waters of the sea have slowly receded.

Between Jidda and Hali, near the northern boundary of the Yemen, there is little to note. Ras el Askar and Hali are the only points where we had seen marine residues. But farther south, near the straits of Bab el Mandeb, they reappear abundantly. In this part of Arabia they're found not only on the surface of the ground but even very deep inside the earth. That's easy to confirm by examining material cleared from a well dug at Moka for the benefit of an English company at the end of the last century [1].

SEQUENCE.	MATERIAL IN THE LAYER.	THICKNESS.
1.	Plaster debris.	8 feet.
2.	Clay.	2 "
3.	Silt and seaweed.	1 "
4.	Madrepores and broken shells.	6 "
5.	Sea sand and shellfish.	11 "

In the third layer, the water had been found to be noxious and unhealthy. It became less briny the deeper that one dug, and in the end 100 pounds of water yielded no more than a pound of salt. Thereafter, it's clear that at Moka the Tehama down to a depth of 28 feet

[1] *Journey on both shores of the Red Sea, in Abyssinia, and in Egypt.* by Viscount George Valentia, volume III, p. 139.

consists of marine deposits. It's the same along the rest of the coastline as far as the entrance to the Indian Ocean.

This occurrence led Lord Valentia to believe that the Tehama must have been formed by accretions washed ashore out of the gulf. After Valentia, Salt was eager to adopt the same opinion, and it was repeated subsequently by many travelers. In the next chapter we will show that this view is entirely groundless.

After having examined the Asian coast, moving to the African shore we again find a repeat of the same phenomenon.

Two leagues south of Suez the terrain is simply an undulating plain full of sea salt, rounded pebbles, and fragments of shells and other organic residue from the gulf. Three-quarters of a league west of the town, the renowned Niebuhr noticed an even more characteristic feature. He saw a cluster of live shellfish on a rock that was covered with water at high tide and empty shells of the same species on another rock on the shore beyond where the waters of the gulf could reach it. Opposite Tor and Ras Muhammad different phenomena attracted the attention of travelers. At this location the entire coast of Egypt

is covered with madreporic rocks identical to those on neighboring islands and that often extend three quarters of a league from the seashore. In the vicinity of Quseir, by contrast, coral rocks rarely are found far from the gulf. Usually they are very close to the shoreline and form escarpments 30 to 40 feet high. Even at Quseir there is a madrepore reef that shelters the port on its north side and forms a barrier that is exposed at low tide. The barrier grows higher every day by accumulating solid material from the coral polyps to which it owes its existence.

The madrepore escarpments found at this point on the Egyptian coast are also seen at Djezir el Ras, Sarakin, Massawa, Amphila, Ayd, Ras Rackhama and at several other locations. At Massawa, where we stayed nearly three weeks, we were able to convince ourselves by repeated observations that coral rocks everywhere form the basis of the edge of land extending along the seashore. Toward Moucoullou they reach as far as three quarters of a league from the shore. More than once we had a chance to compare them with those that form every day in the waters of the gulf, and we never were able to detect the slightest difference.

So it's clear that the west coast, like the east coast of the Red Sea, is made up of very new terrain consisting of gravel, sand, pebbles, and organic debris, residue born of the sea and left behind by the sea. This terrain is more that 400 leagues long. It stretches almost without interruption from Suez to the entrance to the Indian Ocean and even continues beyond the strait of Bab el Mandeb. We don't know its southern limit, but it definitely reappears at Tadjoura and in its vicinity. At Tadjoura it forms the shore of the Indian Ocean and is made up of hills of limestone clay noteworthy for their abundance of perfectly preserved fossil shells. Returning from his first trip to Choa, M. Rochet d'Héricourt stayed for several days where they are found. He collected a large number and soon after arriving in Paris he submitted them for examination to several geologists and published an extremely interesting list of them.

We transcribe that here as it appears in M. Dufresnoy's report.

Solarium perspectivum. Lamk. Shellfish living in the Indian Ocean.

Rostellaria curvirostris. Lamk. Shellfish living in the Molucca Sea.

Strombula gibberulus. Lamk. Shellfish living in the Indian Ocean and the Molucca Sea.

Terebra flammea? .	.	.Brocchi. Shellfish inhabiting the Indian Ocean and fossils in Italy.
Conus Aldovrandi.	.	.Brocchi. Fossils in Italy.
Conus virginalis. .	.	Brocchi. Id.
Voluta-coronata. .	.	Brocchi. Id.
Ostrea imbricata. .	.	Lamk. Shellfish inhabiting the greater Indian ocean.
Tridacna squamosa.	.	Lamk. Id.
Cardita intermedia		. Lamk. Shellfish inhabiting the seas of New Holland and fossils in Italy.
Venus rugusa. .	.	Gmel. Shellfish inhabiting the Indian Ocean and fossils in Italy.
Cardium rugusum.	.	. Lamk. Shellfish inhabiting the Indian Ocean and fossils in Italy.
Arca diluvii. .	.	. Lamk. Shellfish inhabiting the Red Sea, fossils in Italy and in the south of France.
Pectunculus.		. Not comparable to any species, neither living nor fossil.

The limestone rock where these shells had been found was about 50 meters above sea level. In spite of this considerable height, we are inclined to believe, along with the skillful reporter of M. Rochet's journey, that the limestone-clay tuff more than three leagues long seen by that traveler resulted from incrustations similar to those that we had previously noticed at several points along the Red Sea.

This view of the mountains and the shores of the gulf led us to have a look

at the makeup of the islands found in this sea. There are very many of these islands between Suez and Aqaba as far as the heights of Yanbu. They consist largely of sandstone and limestone, most often of madrepores and other residue from the sea.

Beyond Yanbu the coral reefs that are so plentiful in the upper region become less common. Traces of volcanic eruptions already start to attract the traveler's attention. Proceeding a little further south, one generally encounters groups of islands and islets that owe their existence to undersea eruptions.

Coming from Suez, the first volcanic island that appears is Zabargad, situated at $23^{0}36'$ north latitude and $33^{0}54'$ longitude east of the Paris meridian. Formerly it had been famous for its emerald mines. Today there is nothing there but ashes and lava that have emerged through the madrepore stones in the bedrock. The soil of this island is arid, miserable, and completely uncultivated. The only thing worthwhile mentioning is a peak 7 to 800 feet high that serves as a landmark for Arab vessels that have gone off course, and it shades some wretched fishermen's huts that are barely a few feet above the ground. Further south on the Asian shore

is the peak of Koteumbel that the Arabs remember having seen erupting, and the island of Foucht where the ground, covered with pumice stones, rumbles indistinctly like that of the solfatara near Naples. East of this last place are Jebel Ter, the Zuqar group, the group of the Hanish, and that of Mahabakah, composed of five small islets covered with volcanic debris. Further along toward the Indian Ocean the two Abelat appear near the African coast, where there is a conical elevation about 200 feet high, and the small island of Doumairah, notable for a very picturesque peak. Finally, in the strait, the group of The Brothers composed of arid rocks, and several islets in the form of a mountain that looks like it came out of the midst of the sea.

Among all of these islands, Jebel Ter, also called by the Arabs Jebel Dukhan, or mountain of smoke because of the streams of gas and vapor that constantly emerge from its sides, deserves special mention. Jebel Dukhan is situated 15^0 32' north latitude and 39^0 32' longitude east of the Paris meridian. This mountain rises 900 feet above sea level; it forms a small volcanic island by itself that is 1,600 meters long by 1,200 meters wide. Ravaged by subterranean fire, this island is inhospitable

and no trees nor any useful plants grow on it. There is only a sulfur mine to attract a geologist's attention. The mine first had been exploited by soldiers of the viceroy of Egypt, but Mohammed Ali stopped the wasteful work on it a long time ago when its yield no longer was sufficient to cover the expense. Jebel Dukhan seems never to have displayed any features other than those seen there now. Lava flows are nowhere to be found. Thus a number of travelers were mistaken when they thought this mountain was a volcano. Jebel Dukhan is merely a solfatara like that of Pozzuoli near Naples, where the effects observed since very ancient times always can be explained by the release of sulfurous gas partially mixed with steam.

Nevertheless, if at Jebel Dukhan there is no trace of volcanic eruption, most of the other islands that we have mentioned have many. Some are covered with grayish mounds and burned-out rocks and look very bleak. Several are full of ashes and scoriaceous mounds. Others display apparent remains of ancient craters modified by volcanic phenomena that appeared in different ways at different periods.

Lastly, some others take on bizarre shapes reminiscent of those on several volcanic islands in the Mediterranean and in the Indian archipelago.

But this last observation is not unique to the groups we have just listed. It's enough to glance at the map of the Arabian Gulf to see that it applies equally to the majority of the islands in this sea.

Abu Rabah is shaped like a wedge for splitting wood; Dokeïlah and Isratu like an equilateral triangle. The contours of Great Hernish are hardly different from those of a weaver's shuttle, and while Remeïn resembles a hatchet, Dhoudaf looks like the picture of a man's leg. Near these islands whose shape is easily described, there is a multitude of others that have no possible comparison as their configurations developed in odd ways. In addition their shorelines are deeply carved out and offer safe havens where the Arab vessels can seek refuge in bad weather. Sometimes, as at Tiran and at Sanafir, they open into into a horseshoe. Sometimes, as at Dahlak, they form a complete circle that only can be entered through a very narrow passage. Here there are crescent or quadrilateral-shaped bays. In several other places the islands are formed out of a single inaccessible rock

and make up circular groups that appear as though they were the rims of a vast upheaval crater.

The elevation of these islands in general is scarcely more than a few feet above sea level. But several are no less than three hundred meters high, and they contain marine deposits in places on their surface that no longer can be covered by seawater.

Dahlak has these remains at 50 feet above sea level.

Saikan	-----	90	-----
Menkawar	-----	100	-----
Sarzo	-----	160	-----
Umm el Bisran	-----	180	-----
Abu Chuchua	-----	350	-----
Teheran	-----	400 and 500 feet.	

These deposits are distinguished by organic detritus that we had noted previously uniquely resembles the remains of animals found in the Red Sea. In general they consist of coral and shell fragments that seemed to us to belong to the genera *murex, volutes,* and *cerite.* The terrain on which they lie rarely is flat. Often there are noticeable crevasses and anfractuosities that seem to have resulted from violent earthquakes. At Abu Sagar there is a striking example of what we are talking about.

This islet, which is difficult to approach, is in fact a mass of entirely homogeneous madreporic rocks. Everything suggests that originally they were actually just a single block. Today however they are divided into a large number of fragments, and the enormous gaps that separate the fragments from one another diverge from a common center like the star pattern in a broken window pane.

On the island of Jubal the ground likewise is cracked open everywhere. In several directions there are noticeable fissures 20 to 30 feet wide by 80 deep. But these fissures are distinctive in a special way. Their edges, instead of being on the same level as they are at Abu Sagar, sometimes appear at different levels, suggesting that part of the ground had sunk downward while the other part had lifted up by a movement in the opposite direction. At Saoul and at Chuchua entirely similar phenomena can be seen.

To conclude this description of the Arabian Gulf, we will add that the sea bottom contains fragments of shells, mud, and rounded pebbles gathered together by water full of calcium carbonate. A sounding line at several locations, near Hind Hadam for example, descends to 220 fathoms without engaging anything, whereas

elsewhere it stops a few feet below the water's surface. The waves conform to the tides whose height gradually diminishes from Suez to Moka, and the shores at intervals are covered with extensive ruins marking the locations of towns that at one time were flourishing.

All that's left for us to do now is to account for these diverse phenomena. That will be the topic of the next chapter.

SUMMARY of Chapter VI

Upheavals on the shores of the Red Sea -- Evidence for these upheavals and their results.-- Modifications of the Red Sea shorelines. -- The Bitter Lakes -- Our opinion about how the lakes were formed; their basin. -- Problematic results concerning the formation of the Bitter Lakes. -- Dispute among the ancients as to the length of the isthmus of Suez. -- Geology is required to study the comparative geography of the Red Sea valley.

CHAPTER VI.

We've just told our readers about the mineral water springs whose temperatures often are extremely high, the numerous streams that rush into the ground or disappear into the sand, the ocean debris seen scattered over the land, the fissures, the deep cavities found in rocks on the islands and on shore, the sulfur mines of Car Gimjhé, the petroleum spring gushing at Jebel Zeit on the Egyptian coast, the constantly active solfatara of Jebel Dukhan that incessantly belches out jets of gas and vapor; lastly, the craters, the lava, the ashes, all of the volcanic material that covers the surfaces of the islands

and part of the seashore towards the south of the Arabian Gulf. This group of phenomena clearly point to a volcanic source concealed beneath the coast of Yemen, possibly connected to the one that M. Rochet described in Choa. At different periods this volcanic center was manifested by vigorous underground tremors.

In Agartharcides time the Ietyophages around the Ptolémaïs[1] had remembered an earthquake so violent that the waters of the Arabian Gulf receded far from the shoreline leaving dry a large expanse of the sea basin that was covered again when they returned.

Since that time the same phenomenon recurred more than once and on a few occasions together with dreadful explosions. Subsequently volcanoes appeared whose remains are seen in the valley of the Arabian Gulf. If any doubt remains about this, the account to follow, recorded in a history of Medina translated by Burchardt, will suffice to dispel it once and for all.

" The 1st of the month of Djomad el Akhir in the year 634 of the hegira [*Translator's note:* the Muslim era]" says the Arabic text

Agathar, in the work of Diodorus of Sicily, vol.I, book 3, (40, p.208.)

a slight earthquake was felt in the city (Medina). On the 3rd a stronger shock shook the houses. -- On that date, about 2 a.m., unusually violent tremors awoke the inhabitants; in the morning the tremors intensified repeatedly, their strength increasing at intervals until the 6th of the month. Many houses and walls collapsed. On the Friday morning a dreadful noise was heard, and about noon the eruption began. At the point where fire came out of the ground it first raised a cloud of smoke that completely obscured the sky. Toward the end of the day the flames were seen east of the city. A mass of flame of immense size displayed the image of a great city with walls, battlements, and minarets rising to the sky. A surge of red and blue fire escaped from its heart accompanied by peals of thunder. Surges of flaming lava drove whole rocks in front of them heaping them up in piles of extraordinary height. Still, the torrent came ever closer to the town when Providence sent a fresh wind, which halted its progress from that side. The entire population of Medina spent the night inside the great mosque; the brightness of the fire turned night into day. The flow of fire, diverted from its path,

headed northward, was blocked by Jebel Waïra, a mountain situated in the Wadi el Shallat, about 4000 meters east of Jebel Oht. That's where it stopped. The flames kept erupting for five days and the lava flow burned for three months. The heat prevented anyone from getting close to it. Rocks melted in the conflagration. But since this was the sacred territory of Medina, the Prophet had decreed that no tree could be cut down in a prescribed area. So the lava flow spared all the trees in its path. The entire length of the flow was 12 *forsaks* (19,311.72^{m}); its width was 4 *forsaks* (6,437.24^{m}) and it was 8 to 9 feet deep. The valley of Shallat was completely blocked. The part where this obstruction still exists was named El Ched as a result. The flames were seen from Yanbu on the seashore and from Mecca. An Arab from Teima (a small desert town 6 or 8 leagues northwest of Medina) wrote a letter at nighttime by the light of the flames from that far away."

With careful reading of historians and of the geography of the middle ages, one would probably find accounts of volcanic eruptions similar to the one we have just described.

During the last century underground quakes more than once spread fear among the towns on the Arabian Gulf. And only a short time afterward publications reported that a new volcano had emerged from the middle of the Red Sea in view of a number of English travelers who were stunned to see such an extraordinary spectacle.

It's known that the earthquakes that always precede these kinds of phenomena often cause terrible catastrophes. Couldn't we blame them for the destruction of well-known towns that used to flourish along the shores of the Arabian Gulf? Wouldn't it then be appropriate to repair the break in the important dam at Marib? That resulted in a great flood that dispersed the population of Sheba [*Translator's note*: in biblical times, the region in southern Arabia that included Yemen. Marib was its capital], and forever destroyed the ill-fated country where they lived.

Whatever one thinks of these ideas, it's certainly true that the valley of the Red Sea had undergone volcanic eruptions that greatly modified the seabed. Well-known anchorages became shallower and ports were filled in. In several places that once were freely navigable and readily traversed, there now are shoals that impede heavily laden vessels.

The northern boundaries of the gulf have receded 60,000^{m} southward, and several islands and certain parts of the coastline, covered with ocean debris at a height beyond where the sea can reach, are visible above the water.

Travelers who visited the basin of the Red Sea before we did, Salt, Valentia, Niebhur, and several others. observed this phenomenon in different places and pointed it out indirectly by saying that the sea had receded, thus allowing for a change in sea level.

This hypothesis seems unacceptable to us. In effect, if the sea level had reached as high as 250 to 300 feet, i.e. the height where all kinds of marine residues are found, the sea would have covered the greater part of Egypt. The isthmus of Suez, where the most prominent locations are barely 35 to 40 feet above highest tide, would have been completely under water. At that time the Red Sea and the Mediterranean would have been one and the same sea. Well, there is nothing in history that could justify such a conclusion. Besides, if that were the case, what would have happened to all the excess water? Wouldn't the laws of equilibrium have been violated? And from the locations

of the marine deposits that we have indicated, wouldn't one have to admit, contrary to all observation, that animals that had been living at the surface of the water in certain places would have to have lived at considerable depths in others? That couldn't be. Experiments at the Uppsala academy definitely established that sea levels were invariable, and one could not depart from this principle without reaching absurd conclusions.

Since on one hand the level of the Red Sea hasn't changed, and on the other hand, relying here on the observations of Messrs. Quoi and Gaimard that species that mostly form the madreporic reefs such as the *méandrines,* the *caryophyllées,* the *astrées,* etc., usually accumulate their products only at the surface of the water where their last generations have died out, how then can we explain the presence of the large coral deposits that we found at a height of more than 350 feet? There's only one way to account for it. It's to recognize, as we have already done, that they were lifted up there by upheavals resulting from the volcanic phenomena that disrupted the bottom of the Red Sea.

The idea of such movement does not conflict with science.

Records from all previous times and centuries mention events that are exactly comparable. The coastlines of Chile were uplifted along a distance of more than 200 leagues from Valdavia to Valparaiso. It's the same for the seashores of France, England, the Antilles, Timor, New Holland, and for several islands in the South Seas. The same observation applies to the shores of Sicily, Sardinia, and Tuscany. It's also true for Finland and for a large part of Sweden. Extremely old shipwrecks, seashells resembling those that live in the Baltic found amid excavations for a canal dug near Stockholm, demonstrate that that country, at one time beneath the sea, has progressively risen to the surface of the water.

The uplift that affected the coastlines of the Red Sea occurred in the same way. Furthermore, this upward movement hasn't yet ended. It continues imperceptibly, changing the shape of the ground every day. The local populations also share this view. All the Arabs agree that the bottom and the banks of the Red Sea change every twenty years. Perhaps, according to M. Gosselin, the brevity of this period is exaggerated.

But old men point out to travelers several points on the coast where when they were young they used to anchor their ships, but where the rise in the sea bottom and the growth of the reefs no longer permit a landing. In addition, this change in the ground has filled up harbors, widened the sea shore, and gradually pushed the coastal towns further inland.

There is no lack of evidence to support this assertion. Everyone knows that Heroopolis and Arsinoë were situated at the end of the Red Sea. Heroopolis even displayed a brilliance that gave it its name. The Greeks called the sea the Heroopolitan Gulf. Today there remains no trace of these once-flourishing ports. They disappeared one by one as movement of the earth, combined with the action of the winds and tides, made them uninhabitable. A visitor can barely make out where they had been.

Under Arab rule Kolsun succeeded Arsinoë and suffered the same fate.

The ruins, several hundred meters from Suez, mark the location of that city. But every day at low tide the gulf is so shallow there that it can be forded without the slightest danger.

The decline of Kolsun determined that Suez would be established a little further south, and already the port of Suez is in very bad shape. Castro [*Translator's note*: João de Castro, Portuguese explorer (1500-1548)], who navigated the Red Sea in 1541, stated with certainty that between El Tur and the end of the gulf there is no rock, island, nor barrier to hinder navigation. He anchored very close to shore and saw Suleiman's fleet consisting of forty galleys and nine large vessels at anchor in a deeper part of the bay. Today that recess is almost filled in. Boats no longer can arrive at Suez fully laden. Since the tide only brings four to five feet of water into the port, it's clear that it couldn't have accommodated the Turkish fleet unless it had been very much deeper than it is now.

Along the Hejaz coast, between Al Hassani Island and El Ouïch, there are three remarkable mountains. Niebhur named them Jebel el Sheik, Jebel Hawene, and Jebel Hester. At the time of Artemidorus and Diodorus of Sicily the bases of these mountains were in the sea. Now they appear more than a league further inland.

Let's go further south. We come to the town of Yanbu mentioned by Ptolemy. At the beginning of the Christian era Yanbu was situated near the shore.

1200 years later, in Albufeda's time, it was several leagues farther away. Today it's about a day from the shore on foot. The Arabs call this town Yanbu el Nakel to distinguish it from the new Yanbu, which for commercial reasons was built five or six leagues further north right at the edge of the gulf.

Jiddah, a city on the same coast, seems threatened by the same fate as Yanbu el Nakel. Niebhur doesn't consider it likely that this port is located on the same spot as the city bearing the same name that was mentioned in the memoirs of the life of Mohammed. Jiddah, says this traveler, is moving more and more to the east. The water in this port already is so low that small ships often must wait for the tide in order to move merchandise either on board or to the shore.

The town of Hali, marking the northern frontier of Yemen, was on the seacoast in the time of Edrizi. It's now situated three leagues from the shore.

Further south, Ghafalek, a port frequented by Arab ships in the XIVth century, has not been accessible for many years. Its demise hastened that of Zabid, one of the largest towns in the Tehama. Driven from Zabid, trade moved to re-establish itself in Bayt al Fakih.

But Marabea, the port of this town, is no longer accessible to shipping, and Loeïha which succeeded it, has begun filling in.

In Albufeda's time the town, or rather the village, of El Scherdjé was right on the shore. It now has retreated three and a half leagues inland.

Lastly, Musa, Yemen's most famous port during the first centuries of the Christian era and now conveyed to the mountain slopes, overlooks a plain five to six leagues wide between itself and the shore that is full of madreporic reefs that once had been submerged under the sea.

The changes that took place on the isthmus of Suez are greater yet. The appearance, the nature of the terrain as well as the configuration of the ground, offer proof that during ancient times part of the desert in this location had formed at the sea's expense.

And at first sight the map of Egypt reveals something striking and extremely important. Precisely at the extension of the Arabian Gulf there is a vast basin separated from the end of the Red Sea only by a sand bank four or five leagues wide. This is the basin of the Bitter Lakes (*lacus Amari*).

It's about 40,000^{m} long, 10 to 11,000^{m} wide, and in several places it is 17^{m} below sea level. This great depression, like the surrounding terrain, is inclined slightly from south to north. Although today it is dry for almost its entire length, there is every reason to believe that formerly it was filled with water from the sea.

In its midst there is a salt plateau five to six feet high where residue scattered over the ground looks, as M. Lepère describes it, like the breakup of a river that has deposited ice floes upon a sandy beach. Its bottom is covered with a large number of seashells. All around it there is a line formed by marine deposits fourteen to fifteen leagues long. Furthermore, all the ruins of ancient towns in the area now are found above the highest water-mark of the Arabian gulf. This feature shows the care that the inhabitants took to protect themselves from unusually high tides. Undoubtedly the towns would not consistently have been built this way, if they had been constructed far from the seashore.

To all of this evidence we will add one last point,

which we believe is decisive, and that is the historical evidence.

Herodotus expressly states that the distance from Mount Cassius (at a well-known location on the Mediterranean coast) to the Eritrean Sea, or the Red Sea, is 1,000 stages of 100 meters, or 100,000 meters. This is exactly the distance that separates this mountain from the northern end of the Bitter Lakes.

One might argue that the stage mentioned by Herodotus is not the small stage but is in fact a larger one. But we would point out that in his description of Egypt, this Greek historian invariably uses the Alexandrian stage, which was very much in use in his time. So it's unlikely that Herodotus would have used a different standard just for the breadth of the isthmus of Suez, especially since the locations of the places agree so well with the reports that he has given us.

Pliny is no less explicit than Herodotus. This writer informs us that the canal that the Pharaohs undertook to connect the Nile to the Red Sea, which got its water from the river near Bubastis, was 62,000 paces long or about 91,355 meters. This distance, according to M. Lepère's calculation, is exactly the same as the distance between Bubastis and the upper edge of the Bitter Lakes.

To come to this conclusion it must be acknowledged that the lakes originally were part of the Red Sea. Because if one wanted to go by the present-day boundary of the gulf, the distance of 62,000 paces would fall short by nearly one third.

A further point is self-evident. If the Red Sea had not extended much farther northward in ancient times, the biblical text about the journey of the Hebrews in the desert would offer insurmountable difficulties. Instead, our hypothesis readily accounts for it and provides the most correct interpretation.

It says in Exodus [*Translator's note*: Exodus 13: 17, King James version] "when Pharaoh had let the people go, that God led them not through the way of the land of the Philistines, although that was near; for God said, Lest peradventure the people repent when they see war, and they return to Egypt. But God led the people about, through the way of the wilderness of the Red sea".

Their starting point is well-known: it was the land of Goshen, which according to the historian Josephus is on the direct route from Memphis to Gaza and which everyone agrees is located in the valley of Saba-Byar, about 20 leagues northwest of Suez.

If the Red sea once had covered the basin of the Bitter Lakes, it's very conceivable that the Hebrews in their journey across the desert had been able to proceed along the west coast of the gulf since the land of Goshen was no more than a few leagues away. In the opposite case the itinerary of the Hebrews is impossible to understand. Indeed let's not forget that they escaped from Egypt stealthily, handicapped by a hasty flight, and that they brought with them women, children and the elderly. They hauled their belongings, they carried on their shoulders cloaks filled with flour, and they took from the Egyptians plates of gold and silver and great quantities of clothing. In front of them they drove sheep, herds of beasts of burden, and an inordinate number of all kinds animals (*much in excess*).

In our time quite large merchant caravans barely go more than six leagues a day. This multitude of Hebrew people of all ages mingled together (*a countless mixed crowd*) could not have done more than five leagues a day across the sands. Let's figure six, if we don't count the hardship. Since the journey of the Israelites lasted only three days, and the valley of Saba Byar, the ancient land of Goshen, is twenty leagues from Suez,

it would have been impossible, given the current locations, for the Hebrews not only to *proceed along the gulf* as the holy scripture teaches us, but also to reach the upper extremity of the Red Sea. So we have to conclude that the sea originally extended inland much further north.

Thus the geological findings completely agree with the historical record. They demonstrate that the Arabian Gulf, whose waters now terminate near Suez, at one time came up as far as the valley of Saba Byar, encompassing the vast basin of the Bitter Lakes.

Messrs. Lepère and Dubois-Aymé believe that the actions of winds and tides in the long run were enough to create the artificial isthmus that we now see north of Suez and to separate that extension of the gulf from the rest of the sea. According to these expert engineers, the lakes that formed that way would dry out later on when their water evaporated. This explanation seems unsatisfactory to us. We believe that the formation of the lakes had a much stronger source, namely the action of subterranean forces.

To be sure, as Messrs. Lepère and Dubois-Aymé correctly observed,

waves often produce sand banks along the shores

extending their length considerably. But where the surf can fluctuate freely and is subject to the forces of wind and tides, such effects are rarely seen. On the contrary, in these locations the waters when set in motion almost always tend to cover over the irregularities along the bottom instead of heaping up sand. Let's suppose in any case that north of Suez, in a place where no cross-current exists, that the tide due to some unknown cause could have created a sand bank several leagues deep and blocked off the gulf from one bank to the other. There still would be the problem of how to explain the presence of all those marine deposits found at levels that the water no longer can reach, as well as the uniform depression altering part of the isthmus of Suez from south to north.

This depression cannot be disputed. Up until now it had been indicated by the positions of a few shells that seemed to us to have descended below the level of the gulf. But, since the evidence of our senses always is suspect, we will attempt to demonstrate this most interesting fact with positive proof.

We have said that all around the basin in the isthmus there is a very long line of marine deposits. We can add that these deposits

resemble those that the sea deposited on the shore in the vicinity of Suez, that they are found at its water level from olden times, and that they trace out its limits in a precise way.

That stated, if the basin had not undergone any physical alteration since the earlier period when it was completely filled by the Red Sea, it's clear that the line of deposits originally leveled by the water ought to have remained horizontal around the entire periphery of the lakes. In other words, each point on the line should be at the same height above sea level. Let's see if the facts agree with the hypothesis.

A look at the records for the contour mapping of the isthmus performed by the expert engineers of the Egyptian expedition will demonstrate the resolution of the problem.

In the record all data are relative to a principal plane for comparison. The plane was 48 meters 726 above the open sea on June 24, 1799 and marked on a stake planted at the level of the marine deposits at a distance of 2,270 meters north of the port of Suez.

Here are the figures for the points that interested us. We arranged them in columns:

ABSTRACT

from the historical and geological record of contour mapping of the isthmus of Suez.

STATIONS NUMBER	DISTANCE	ORDINATES of the LOCATIONS	OBSERVATIONS.
	RED SEA		
	Upper	48m 726	
	Lower	50 52	
	Suez.	46 878	
	2 270	48 726	Recorded on the open sea at the head of the canal at 2 270 m. from the port of Suez.
1	580m	48m 013	
2	640	47 907	
3	800	48 473	
4	800	48 049	
5	800	48 433	
6	1200	48 967	
67	240	49 493	In the interval between stations 67 and 68 there are traces of lake shores on the surface of the desert. They look just like ordinary residues on a seashore, recognizable by the accumulation of shells, gravel, and smooth pebbles. The basin of the Bitter Lakes indeed must have been an extension of the sea in this part of the isthmus.
68	180	47 363	
119	600	66 353	
152	580	50 918	The limits of the lakes are between stations nos. 152 and 153. Marine residues are visible there that resemble those seen and recorded at nos. 67 and 68.
153	320	48 956	

According to this table, it's clear that starting at 4 820^{m} the sand bank that separates the Red Sea from the Bitter Lakes has already been broken through, and that the highest point on the contour line reached 0^{m}, 819 above high water on the Red Sea.

Between stations nos. 67 and 68 the marine deposits are found that mark the former sea level.

To be sure, the record does not specify the exact point where the residues are found. Let's suppose this point was located midway between the two stations. This would not involve much of an error, because in this interval (an interval of 180 meters) the slope of the terrain is uniform and very gentle.

The ordinate of this point would be the median of the ordinates of stations no. 67 and 68 putting it at 0^{m}31 above sea level for the residues at the southern part of the basin.

Let's make the same assumption and the same calculations to determine the altitude of the residues on the opposite side, between stations no. 152 and no. 153. We find that on the contrary the residues on this side lie at 1^{m}21 below the level of the Red Sea.

So it's clear that the plane of the residues in the basin underwent a see-saw shift that lifted it on the south to 0^{m}31 above high water in the Red Sea,

and lowered it toward the north by $1^{m}21$ below this same water level.

This movement of the ground that began in the middle of the sand bank seen near Suez and which continued beyond the valley of Saba Byar is the reverse of the one that changed the rest of the Red Sea coastlines. North of this bank the terrain had been pushed down. To the south, by contrast, it had been lifted up. But even though they went in opposite directions, these movements nevertheless had a common source, the action of subterranean conflagration. We think it's also appropriate to attribute the formation of the Bitter Lakes to this same source.

All of this leads us to believe that in fact at the period when the coastlines of the Red Sea and the vicinity of Suez were shaped by volcanic phenomena, an upheaval would have occurred in the most confined part of the gulf. Such an upheaval would have, lifted the sea-bottom up in a bell-shape and created the huge sand bank north of Suez, thus separating the end of the gulf from the rest of the sea. At first this formed a lake which later would dry out in an atmosphere that burns all year long in the sun's rays.

In our opinion that's the phenomenon

that gave rise to the vast basin of the Bitter Lakes. Nevertheless, there could be an objection here. You may ask us how such a profound change could escape notice in the public records of Egypt? We think there's an easy answer. If the formation of the lakes had in fact been a sudden phenomenon, we would have good reason to be surprised that writers at the time had not recorded it. But that was not the kind of event we are talking about. This physical transformation took place slowly. It proceeded gradually without detection, and thus escaped the notice of the historians. No one realized that this series of successive changes was going on. It continued without letup and in the end made navigation impracticable at the extremity of the gulf. The Arab geographers of the Middle Ages never recorded the changes that took place in the coastlines of the Hejaz and Yemen in their own time. And wasn't it only a few years ago that scholars pointed out that the coasts of Chile and of Sweden are rising slowly underneath the feet of their inhabitants? So it's quite natural then that the ancients were silent about the phenomenon that we describe here. Since this phenomenon didn't take place abruptly, and it unfolded over considerable time,

it's hardly possible to specify the period. In any case, we think we can confine it within certain limits.

We've already pointed out that in the year 460 B.C.E., the basin of the lakes was still occupied by the sea, and this fact agrees strictly with the findings at that location.

On the other hand, under the reign of Ptolemy Pliladelphus [*Translator's note*: Ptolemy II, ruler of ancient Egypt, c. 308-246 B.C.E.] in the year 285 B.C.E. the basin already had been separated from the lakes. All writers speak of the Bitter Lakes as already existing at that time. They claim that Philadelphus dug a canal that joined the lakes to the end of the Arabian Gulf near Arsinoé. So the upheaval that formed them took place between the year 460 and the year 285 B.C.E., in other words over a period of 175 years.

This interval of 175 years is rather broad. With more historical research it probably will be narrowed down somewhat more. We will leave this work to the attention of others. What we need to point out here is that the formation of the Bitter Lakes was a profoundly disruptive event for Egypt.

The roads and canals that connected the Nile valley to the end of the Red Sea thereafter were rendered useless, the ports on this part of the isthmus were pushed inland,

merchants were forced to move closer to the coastline so as not to lose their livelihoods, a large amount of land was lost to agriculture, and in the end the desert had increased by 12 to 13 leagues.

Can't we now understand the differences among ancient historians regarding the geography and the breadth of the isthmus of Suez?

Herodotus in the year 460 B.C.E. estimated the breadth of the isthmus at 100,000 meters, which would place the end of the gulf at about 30°33' north latitude.

Several centuries later geographers assigned a different position to the upper end of this sea. Strabo, who lived at the beginning of the Christian era, said that this end was 1,000 stades from the parallel of Alexandria. This distance conforms fairly closely to that today.

Marinus of Tyre [*Translator's note*: a Greek geographer of the 1st century C.E.], a contemporary of Strabo, came closer to the truth. He estimated the breadth of the isthmus to be 817 stades, and consequently placed the end of the gulf at 30° north latitude. This is the same result obtained later by Eb Khordadyeh cited by Makryzy, and the same one that M. Nouet found, whose calculations should inspire greater confidence.

So there is a difference of 30' to 34' in latitude between Herodotus and the authors that followed him, precisely the difference that we would have determined,

given that the formation of the Bitter Lakes, after Herodotus and prior to the time of Strabo and Marinus of Tyre, had pushed the end of the sea about 60,000 meters southward. This distance corresponds to about 32' on the latitude scale.

In the following chapter we additionally will show that our theory about the former borders of the Red Sea satisfactorily resolves the apparent contradiction that exists between Herodotus and Strabo about the canal of the kings.

In a country where the terrain has undergone so many transformations, questions about history and a multitude of others concerning geography and archaeology can be resolved only by geological studies. The use of geology is especially indispensable to someone who wants to describe the comparative geography of the Red Sea shores even briefly. An extraordinary topic! Most of the towns that are there now were established no more than 500 years ago. Since the time of Artemidorus and Diodorus of Sicily everything has changed. Everything changes on these shores where cities perish so quickly. Perhaps a hundred years from now the inquisitive traveler will search inland for the ports where we anchored today and for the harbors where in the evening we listen to the gentle and moving murmur of the sea.

SUMMARY of Chapter VII

Canal of the Kings -- Opinions of the ancients regarding the layout of this canal -- The errors of Strabo and Diodorus of Sicily -- The Canal of the Kings connected the Red Sea to the Mediterranean -- The possibility of reestablishing this former connection -- An opening through the isthmus of Suez; the beneficial results for trade and navigation.

CHAPTER VII.

We stayed only a few days in Suez. We used this time mainly to explore the desert that extends north of the town and separates the Red Sea from the Mediterranean. The isthmus is hardly more than twenty-five leagues long. For many years the sand covering that terrain kept people away, as have all the floods. Only blocks of carved stone, inscriptions, and endless ruins scattered along the traveler's route bear witness to a glorious past and to great riches that now have vanished.

But today, thanks to the steamship, this former wealth is about to be reborn. Steamers now plough the two seas that border both sides of this strip of land.

Every day Europe yearns to reach India via the Arabian Gulf. Marseille is no more than twenty-five days from Bombay, and one still hopes to bring the two together by directly connecting the Red Sea to the Mediterranean.

This isn't a new idea. A long time ago the ancients had recognized the importance of connecting the two seas. Leaving Suez and heading northward, the remnants of an ancient canal appear about an hour from the town. We followed its banks for more than a league. These remains reveal the efforts made in ancient Egypt to accomplish such a noble undertaking. But did they bring it to a successful conclusion? Here is where doubt sets in and opinions remain divided.

Among the various sources, some regard the ancient canal of the kings as just an irrigation channel. Others, to the contrary, claim that this canal, originally dug to connect the two seas by a continuous navigation route, was never finished. Lastly, several of them maintain that a regular connection had been established between the two seas, but it existed only under Arab domination in Egypt. In our view the geographers made three mistakes where they misunderstood

or overlooked certain important facts, and as we stated earlier, or did not take into account the geological changes that altered the configuration of the isthmus of Suez during the time preceding the establishment of the Lagides dynasty.

Let's look first at the historical facts. According to Herodotus, Nechos [*Translator's note:* probably Necho, Egyptian pharaoh (609-593 B.C.E.)] was the first Egyptian king to try to connect the Red Sea to the Mediterranean via a navigable canal. A hundred and twenty thousand men perished in the execution of this work. Nechos may have terminated it, but he consulted the divine oracle, and the oracle responded that the king was working for barbarians. From then on the work was left suspended.

It was Darius, son of Hystaspes [*Translator's note*: 6th cent. B.C.E., ruler of Persia, father of Darius I], who had the distinction of resuming and completing it. Thirty years after the king of Persia's project, Herodotus traveled to Egypt, and this great historian confirmed that the navigation route reached both seas. He described the canal this way:

" Four days are required to navigate the length of this canal, and it's wide enough for two triremes to row abreast. Its water comes from the Nile, entering it a little above Bubastis [*Translator's note*: ancient Egyptian site in the Nile delta], and the canal ends near Potamos on the Erythrean sea

(the Red Sea); the excavation began in the part of Egypt on the Arabian side. The mountain extending toward Memphis, which is where the quarries are, is above this plain. The canal begins at the foot of the mountain; at the beginning it runs a long way from west to east; it then passes through openings in the mountain and proceeds southward into the Arabian Gulf."

Nothing is more precise than this passage. Herodotus saw what he speaks of with his own eyes, because he visited Egypt at the time when the canal that he described was open to traffic. The authority of his descriptions is not compromised by the sayings of Strabo and Diodorus of Sicily, who, having come several centuries later, attributed to Ptolemey Philadephus the distinction of having first connected the Red Sea to the Mediterranean.

However, it must be said that the canal dug by Darius did not remain useful for long. We have shown in fact that after this prince's reign and before the establishment of the Lagides' dynasty in Egypt, between 460 and 285 B.C.E., the great physical change occurred that formed the Bitter Lakes at the expense of the Arabian Gulf, and thrust southward the upper limit of the gulf by twelve to thirteen leagues.

This change separated the opening of the canal in Herodotus' account from the sea by an artificial isthmus of about 55,000 to 60,000 meters, and its water was absorbed into the ground. After that the government stopped maintaining it; it had become useless, and when Ptolomey Philadephus ascended the throne he found it completely abandoned. But this ruler himself also recognized the advantage of connecting the two seas, and one of his first tasks on taking over the reins of government was to reestablish the previous connection. So he first cleared and reopened Darius' canal. But since Darius' canal no longer joined the Arabian gulf due to the formation of the Bitter Lakes, he had to proceed by excavating and digging the ground across the lakes to extend the canal as far as the Red Sea, whose upper end was now much farther south.

One now can see where Strabo and Diodorus of Sicily erred. Each one of them overlooked the changes in the shape of the isthmus prior the time of Ptolomey Philadephus. When they conferred upon this ruler the distinction of having achieved this noble enterprise, the text of Herodotus and the geological evidence give us the context in which their words must be understood.

Completed thus by Philadelphus, as Diodorus clearly states, though completed for the second time, the canal whose navigation had been interrupted by physical upheavals once again was used by Egyptian ships. Under this ruler's reign, as under Darius, they were seen passing from the Red Sea to the Mediterranean and back again. Strabo, who traveled to Egypt at the beginning of the Christian era, spoke of the canal as a very active trade route. He described it this way:

"This canal" says the famous geographer "crosses the Bitter Lakes, whose waters really were bitter before the opening of this navigational passage changed their taste and character by blending with the river's waters (the Nile). And now the lakes also abound with fish and water birds. The canal is a hundred cubits wide and it's deep enough for the largest boats. At its entrance the Ptolomeys built a euripus which allowed easy navigation from the canal into the sea and from the sea into the canal."

Diodorus of Sicily, who is no less explicit on this point, called this euripus a stile.

It's opened, he says, when boats want to go through, and it's closed again right afterwards.

According to this duplicated account, it's clear not only that the canal had been completed, but that it was built in conformity with all technical requirements, namely to minimize the difference in water level between the river and the sea by means of euripi or locks, which we can say without hesitation were invented very much earlier than is generally believed.

In this arid country where there isn't the slightest trace of a stream anywhere, this canal, the artificial river that Ptolomey speaks of, must have been a second Nile, rich and fertile, for the local population. Later on Ptolomey built the town of Arsinoë where the canal flowed into the sea. To perpetuate the distinction of having dug it, he named the canal after himself. (*And the stream that flowed past Arsinoë he named Ptolomæus*.)

Despite the similar accounts of Diodorus and Strabo, certain modern writers, Mssrs. Le Père and Rozière, still believe that under the last of the Lagides this navigational route was no longer used. Their opinion is based on a passage in Plutarch, which it would be well to cite here before any further scrutiny.

"Antony the triumvir, says the biographer,

having arrived in Alexandria shortly after the battle of Actium, found Cleopatra engaged in a project that astounded him. (There's a small desert region that divides the two seas and that separates Africa from Asia.) The queen was trying to move her fleet over this isthmus and to transport it from one sea to the other in order to get to a far-away land and to escape with her wealth the dangers of war and servitude."

Taking this passage literally, despite the authority of Strabo and that of Diodorus of Sicily, one would be forced to conclude that at that time there was no connection between the Red Sea and the Mediterranean Sea. Otherwise Plutarch's account would have to be rejected as a false story. Fortunately we're not reduced to this drastic extreme.

The scholar M. Letronne found a way to reconcile the three writers. He took it on himself to answer the problem in a decisive way that left no further doubt [1]. Here's how this clever archaeologist resolved the problem:

"It had been observed, he says, that due to the shallow incline of the slope between the Red Sea and Bubastis,

[1] *Revue des Deux-Mondes,* book 45, 1844.

which is no more than two meters in the best of circumstances, navigation through the canal could last only a few months each year. It would have to be interrupted as soon as the Nile had declined below a certain level. At least passage from the canal to the Nile would necessarily have to stop. Low water ordinarily is reached in March and lasts until the end of June. But for a long time both before and after this period the canal would have to stop working.

" The battle of Actium took place on September 2nd in the year 31 B.C.E. Due to the events that followed this battle, Antony could rejoin Cleopatra only during the first months of the year 30, in February or even later. His return thus coincided with the low-water period when the canal had to be shut down, That's when Antony found Cleopatra engaged in her project. One imagines that the princess, extremely afraid, fearing that at any moment she would see Octavian arrive at the head of his victorious fleet, wasn't patient enough to wait the three or four months until the river had again reached flood stage and made the canal navigable. She took the extreme course of transporting her ships over the isthmus, from Peluze [*Translator's note*: probably the ancient Pelusium, about 21 miles from present-day Port Said] to Heropolis.

"Antony made her quit her project by showing her the considerable resources that he had at his disposal. But she probably would have given up the idea on her own after confronting an obstacle she hadn't expected; the hostility of Arabs from Petra who burned the first ships that she sent across."

Thus Plutarch's report could be quite accurate without contradicting the accounts of Diodorus and Strabo. It must be concluded not that the canal was no longer used, but that navigation on it was necessarily interrupted just at the time that Cleopatra wanted to move her fleet into the Red Sea.

So at present it's an established fact that the canal of the kings dug by Darius, no longer passable after physical changes in the isthmus of Suez, had been restored for navigation by Ptolomey Philadelphus and still was fully active not only under the last of the Lagides but even in the time of Strabo, when Egypt had been reduced to a province of Rome.

This navigational route, connected to the major trade route from Berenice to Coptos and to Appolonopolis Magna [*Translator's note*: ancient trading centers on the Red Sea and the Nile linking Egypt to Arabia and the east], completed the communication system that connected the Nile valley to the Red Sea and contributed greatly to the prosperity of Egypt.

Goods from India, Arabia, and the east coast of Africa were unloaded at Berenice and transported from there into the interior of the country, either via Appolonopolis or via Coptos depending on whether they were destined for upper or for middle Egypt. As to the canal, which later was named for Trajan because this prince took water from it to Babylon in order to increase the gradient of the current, it was used mainly to transport surplus products from the Nile valley to Arabia. Furthermore it seems that under Roman rule it had been in use for a long time for the quarries of porphyry and granite from Jebel Dukhan and Jebel Fatireh located on the west coast of the Red Sea between 27° and 28° north latitude.

These quarries appear to have been extremely important. We did not visit them, but when we were in Quseir not far away, the Arabs mentioned them to us as one of the noteworthy places in Egypt for travelers. Situated four or five leagues from one another, they nonetheless were placed under the same auspices, overseen by the same crews, and leased to the same individual, who's title was slave of Caesar.

They were sorts of prison camps where convicts were sent for forced labor. At Jebel Dukhan porphyry was produced to make vases, baths, and funerary urns. At Jebel Fatireh on the other hand, only granite was produced. Semi-hewn stone blocks, capitals, friezes, column shafts sometimes no less than $18^{m}50$ long and $2^{m}50$ in diameter show that production was on the very largest scale. Products of these two establishments were put on board at Myos Hormos and at Philotera, two neighboring ports on the same coast, transported to Alexandria via Trajan's canal and the Nile, and finally sent from there to Rome where they were used to decorate palaces, temples, and public squares.

In Antoninus' [*Translator's note*: emperor of Rome, 138-161 C.E.] first years during the long period that the quarries of Jebel Dukhan and Jebel Fatireh were actively used, the canal was still frequented by shipping. Lucian [*Translator's note*: Greek writer, 125-190 C.E., also an official in Egypt] who performed important functions in Egypt around 160 C.E., in fact tells about a young man who having left Alexandria went up the Nile and traveled by water to Clysma [*Translator's note*: possibly Tel el Qulsum] on the Red Sea. But dating from the time of Lucian the history of this navigation route remained completely broken off.

There's a long gap, and in the total absence of any information it would be impossible to determine the date when the canal ceased to be passable. All that's known is that it remained blocked with sand and not used until the Arabs conquered Egypt in the year 640 of the present era. At about that time passage was reestablished under the following circumstances:

A dreadful famine had overtaken Medina. Caliph Omar sent dispatches to the governors under him commanding them to send him provisions, All but one of them hastened to obey their master. Amrou, the governor in Egypt, under one pretext or another always found a way to evade the caliph's orders, and the famine continued to devastate the holy cities. In the end Omar lost patience and wrote him a letter worded as follows:

"To the obstinate one, son of a rebel.

" While you fatten up, you and your companions, you don't worry that we waste away, myself and those with me. Render assistance! Help us!"

Amrou answered him:

"I am your servant. A column of beasts of burden is leaving at this moment, and the first of them will already have reached you, while the last one is still here with me;

moreover, I hope to find another means of transport by sea."

Amrou kept his word. If the Arab historians are to be believed, the first beast of burden entered Medina at the time that the last one was leaving Cairo. Nevertheless he quickly regretted that he had mentioned the sea route for transporting provisions from Egypt to the Hejaz. In one stroke he was ruining the country that he governed in order to supply the holy cities. He had cause for self-concern. A short time later he wrote to Omar to tell him that he was confronted with insurmountable obstacles for digging the canal from the Nile to the sea. The Prince of the Faithful wasn't satisfied with this excuse. Not used to dealing with difficulties, he repeated his orders and replied to Amrou:

" It's in vain that you endlessly try to put off carrying out this task. I swear by the Almighty that either you get it done, or I will tear off your ears, and I will replace you with a governor who will obey me."

These threats had an immediate effect. Amrou got down to work, and right away dug the canal of which the Caliph only too well appreciated the benefits. If one believes El Khendy, the construction was finished in six months,

and in the seventh the ships crossed the isthmus en route to the Red Sea. In honor of Omar, the canal was named the canal of the Prince of the Faithful. It originated at Fosthath, a town in Egypt, and ended at Kolsum on the shore of the Red Sea [*Translator's note*: possibly El Fustat (old Cairo) and Clysma (p. 244)]. It was used by Arab ships until the year 762 of the current era. But at that time Mohammed ben Abdullah was in revolt in the Hejaz. Caliph El Manzur ordered that the connection be broken and the canal filled in to starve out the rebel by cutting off his supplies. Thus navigation lasted from 122 to 127 years.

It follows from this historical account that the canal connecting the two seas, whose existence had been doubted by writers who otherwise were scholarly and wise, actually existed during three different periods.

1° During the first period, whose duration is difficult to specify exactly, but which is barely more than a century, from the journey of Herodotus in Egypt until about the middle of the 3rd century B.C.E.

2° During another period of 445 years, from the reign of Philadelphus until the year 160 C.E. and possibly until the end of the reign of Septimus Severus.

3° Lastly, during a final period of 122 to 127 years under Arab rule.

Would it be possible nowadays to restore this ancient route? A commission of engineers formed by Bonaparte when he occupied Egypt was assigned to study this question, and they answered it affirmatively. The report that the president of the commission presented to the commander in chief was drawn up with that objective in mind. "Very well! Since that's the case," Bonaparte replied a few days after he got back to France, "it's a great idea. Publish a memoir, and see to it that the Turkish government pursues its interests and its honor in the fulfillment of this project."

The memoir was published at the hand of M. Le Père, one of the most distinguished engineers of the last century, and it formed part of the magnificent achievement of the expedition in Egypt. Just reading it is enough to be convinced that connecting the two seas via the Nile and even through the canal straight across the isthmus, posed no serious problems.

To comprehend the nature of this operation, it must be realized that between the Arabian gulf and the Mediterranean there is an arid desert twenty-five leagues wide, which rises only a few meters above the highest water levels of the surrounding seas. Going in the direction of the Arabian gulf it's crossed by a vast basin, at the bottom of which lie the Bitter Lakes and Lake Manzala,

which empties into the Mediterranean through several estuaries. Near its center, at the level of the Sérapeum, the basin is intersected at right angles by a small valley, the valley of Saba Byar, which connects to the Nile on the Bubastis side and receives some of the river's flood water.

It's true that south and north of the Bitter Lakes the two huge stretches are blocked by sand-hills, but the hills are barely 12 meters above sea level. Leveling them would be enough to run water from the Arabian gulf into the Nile and the Mediterranean. Once that's done, the transportation route would only need to be improved and the necessary workmanship applied to maintain it.

So it's clear that nothing would be easier than to restore the work of Darius son of Hystapes and of Ptolomey Philadelphus. Cairo and Alexandria would be reconnected to the port of Suez by a continuous navigation route. Fresh water from the Nile brought into the desert separating the two seas would provide abundant irrigation for agriculture and again render fertile a vast stretch of uncultivated land. It would doubtless yield a tremendous benefit.

But if one is restricted to a connection via the Nile, we are obliged to add that alongside the advantages that we've mentioned, the canal from the river to the Red Sea poses the serious difficulty that it would only partially satisfy the demands of trade. It could accommodate only small ships, and as we pointed out earlier, navigation would have to be suspended for four or five months of the year.

Completing this project would not really connect the two seas. The problem will be solved only when the isthmus offers a real passage that allows all ships to go through without breaking up their cargo. To do that, the approach must be directly from Pelusium to Suez. Along that line, the desert is not as wide as it is everywhere else. The vast depression that we spoke of before also extends in that direction. The great basin of the Bitter Lakes lies at its deepest part. So everything points toward building a canal at this location in this strip of land; everything, that is, with one exception: the absence of seaports at the ends of the navigation route. The one at Suez is partly obstructed by sand, and on the Mediterranean side there is no harbor, not even a single anchorage that offers any safety. And there's more:

several travelers have ventured that even if a port were built, it would have to contend with heaps of sand that endlessly drift from west to east on rapid currents and that appear to stand in the way of any maritime enterprise on this shore. As everyone knows, it was precisely with this in mind that Alexander of Macedon laid the foundations of the city bearing his name that he wanted to make into a world emporium, much farther to the west. But is the problem all that serious nowadays? Could the obstacle that was so worrisome at that time stand in the way of the means that our engineers now have at their disposal for accomplishing it? We don't believe so. To build a port without depending on nature, to restrain the sea and to master it, to introduce an artificial shipping channel, and to maintain the channel in the face of the forces of nature that would widen it, is a problem that no longer confounds modern techniques.

Regarding the port at Pelusium, you can see how the difficulty is easily solved. In the event that the Bitter Lakes fill with water from the Arabian gulf as a result of the tides alone, more than 300,000,000 cubic meters of water would be available. The constant flow would keep the canal clear and prevent its estuary from becoming blocked with sand. The experiment would show that the force of this artificial current,

combined with that of the prevailing west-to-east current along the Mediterranean coast, would be enough to form a sand barrier, a protective dike perpendicular to the shore. So nature by its own hand would help to hold back the sand and guarantee the preservation of the port at Pelusium.

M. Le Père did the calculation: ten thousand men, four years of work, and about 30,000,000 francs. No more than that would be needed to accomplish this colossal project and moreover to connect Cairo and Alexandria to this superb navigational route. What a prodigious outcome for such a negligible sacrifice! As a similar venture, Europe can only point to the well-known Caledonian canal connecting the Atlantic to the North Sea across the Scottish county of Inverness, which allows the passage of frigates with forty-two completely equipped cannons. But for predictable as well as for unpredictable benefits, connecting the Arabian gulf to the Mediterranean would leave the Caledonian canal far behind. What a fine badge of honor for Egypt! What an endless source of wealth for the world!

However, we won't leave anything out. Some have wished to diminish the importance of this grand venture and have claimed that the Red Sea

was a sea strewn with reefs, full of hazards and virtually impassable. But it would be a mistake to believe local prejudices. The Arabs gave the Red Sea the awful name of Bab el Mandeb, i,e, Gate of Tears, a dismal designation that should not bother anyone. One only need recall that among the descendants of Ishmael the art of navigation is in its infancy. Since time immemorial they are accustomed to hugging the shoreline, crossing over lots of reefs and leaving themselves exposed to innumerable hazards.

If the Arabs knew how to record data on a chart from a log-book and a compass, it would have been very easy for them to avoid the perils of the shoreline by standing out to sea. In fact, in the middle of the Red Sea there is a broad channel with very deep water everywhere; there are no reefs or sandbanks. English steamers navigate this wide channel with the same confidence that they have in the Mediterranean. They encounter no difficulties other than those common to all narrow seas. Besides, if the Red Sea were as dangerous as some writers claim, would not the Venetian, Portuguese, and Turkish fleets in the middle ages, and later the East India Company, have given up sailing on it,

and have applied for and obtained from the Sultan's court a prohibition to prevent any European ship from entering it?

We understand much better the objection to the regular winds that blow alternatively from the north and from the south. Or rather we would understand if during one part of the year this problem, though not an indisputable benefit, could be made the best of.

For five months from June to November the winds prevail almost without interruption. Come November, they're immediately followed by variable winds that blow for thirty-five to forty days. Then the monsoon from the south settles in for good. It lasts from the end of December until the middle of April. This monsoon is followed by more variable winds. They end during the last days of that month and once again give way to winds from the north.

So except for the seventy to eighty days during which the winds have no defined direction, north of the strait of Bab el Mandeb a continuously prevailing monsoon blows regularly for five months from the north and for five months from the south.

On the other side of the strait it's a completely different picture. There during the summer season the winds are from the south.

In winter they come from the north, slightly inclined either to the west or to the east.

It's easy to foresee all of the advantages that arise from this situation.

A ship leaving Marseille on its way to India would have to plan its departure so as to be in Suez in June or in August. At those times it will pick up a northwest wind that will carry it quickly toward the strait of Bab el Mandeb. Once it has passed through the strait, it no longer will need the north monsoon from the Arabian gulf. At that stage it needs one from the southwest when it enters the Indian ocean. Well, that's exactly the monsoon that it will pick up, which will bring it under full sail toward its destined port in India.

On its return, it has the same benefit. It will get under way in winter during the Indian Ocean monsoon, which then blows from the northeast and will bring it to the Bab el Mandeb strait. Once in the Red Sea, it will pick up a southeast wind directly opposite to the one it had in the ocean, but the route it then follows likewise is opposite to the previous one. The southeast wind will propel it rapidly toward Suez. From there it can get back to Marseille where it started from when it's convenient.

Thanks to the relationships of the monsoons in the Arabian gulf and the Indian ocean,

navigation would be so rapid that a sailing ship leaving the French coast could get to Pondicherry in two and a half months, whereas it would require five months to go around the Cape of Good Hope.

Furthermore, it's not only at one time during the year that the passage through Egypt is preferable to the one via the ocean. Just considering the distance, it can be claimed that that always would be true for trade from Europe as well as from America.

A glance at the table below, set up by M. Cordier, will easily convince our readers that this is the case.

List of ports in Europe and in America.	Via the Suez canal.	Via the Atlantic.	Difference.
Marseille	2,374	5,650	3,276
Constantinople . . .	1,800	6,100	4,300
Trieste	2,340	5,960	3,620
Malta	2,062	5,800	3,738
Cadiz	2,224	5,200	2,976
Lisbon	3,500	5,350	2,850
Bordeaux . . .	2,800	5,630	2,850
Le Havre. . . .	2,824	5,800	2,976
London	3,100	5,950	2,850
Liverpool . . .	3,050	5,900	2,850
Amsterdam . , .	3,100	5,950	2,850
St. Petersburg . . .	3,700	6,550	2,850
New York	3,761	6,200	2,439
New Orleans . . .	3,724	6,450	2,726

With data like these, no further comment is needed.

They show that all the nations of Europe and even the United States of America are all interested in opening a Suez canal. Each year three thousand ships, bearing a total of nearly two million tons, go around the Cape of Good Hope, also called the Cape of Storms, or pass by Cape Horn on their way to various destinations in the India and China seas. Well, according to M. Cordier's calculations, if these ships went via the Arabian gulf, they would realize a profit of more than a hundred million francs.

Unfortunately Egypt is located on the route to the Indies. It would take a long time before disputes among conflicting interests arising there about such a major issue are settled and allow this splendid undertaking to be realized. Even assuming that nations agree to join in mutual accord, to whom would they entrust the work for this important project?

We know that opening the isthmus of Suez can be accomplished either through a shareholder company, a government, or even through the peaceful cooperation of several governments. Since the Suez canal is the great gateway open to the riches of global trade,

regardless of how it's achieved it's in everyone's interest that no nation exclusively holds its key, not even the one whose geographic position seems to give it the right to such a special privilege. If one day the Suez canal comes into being, above anything else the strict and inviolable neutrality of this navigational route, its free passage at all times and under all circumstances, must be the dominant feature of its existence. The entire world is entitled to demand a solemn guaranty of that.

With only a moment's reflection, one will see whether or not there exists a global project whose outcome could be on a scale comparable to the one that we are talking about. An opening through the isthmus of Suez will at one stroke immediately eliminate the dangerous voyage around the Cape and will provide an enormous impetus to continue their journeys for thousands of ships that each year must anchor at a standstill in the ports of France and Algeria, in the provinces on the Persian Gulf, the Ganges in India, in the kingdom of Siam, in Cochin China, in Japan, and in the vast empire of China. It will bring closer no less than three hundred million people who are two thousand leagues away from the Mediterranean basin.

After the printing press, after the compass, after the steam engine and with the steamship, the nineteenth century, through the completion of this great enterprise, will once again change the face of the world. But not setting our views and our predictions too far away, in a region closer to home Arabia, Abyssinia, the vast country of the Galla [*Translator's note*: Nubian tribes in the region of southern Ethiopia], the deserts on the west coast of the Red Sea with their nomadic peoples, when strongly bound to the vast source of industry that our continent has created and consistently maintained, will come back into the lap of the European world. Navigation and industry, faced with supplying huge countries in dire need, will more than rise to the occasion. Thanks to the great transportation industry, our manufactured products will be able to compete favorably with foreign goods in all the marketplaces of Asia and Africa. In the wake of trade the light of civilization gradually will penetrate the dark night that enshrouds the Muslim world. Our ships, appearing frequently in the seas of the Orient, will project everywhere a favorable image of the power and greatness of France. Lastly, our expanded connections with Alexandria, the continual contact of our customs and ideas with the ideas and customs of the peoples of Egypt

will be preserved forever on the banks of the Nile. The shadows of forty centuries awakened in the desert will praise the authority that we owe to the distinguished statecraft of our forefathers and to the memorable victories of our soldiers of the republic.

[*Translator's note:* The modern Suez Canal finally was planned and constructed (1859-69) under the direction of the French engineer Ferdinand de Lesseps.]

SUMMARY of Chapter VIII

Departure from Suez -- Description of our ship -- On board meeting with a woman from Tunis -- Arrival at Hamam-Pharaoh -- Hot water springs; their temperatures -- Caves near the seashore; the Arabs' legend about these caves -- Arrival at Tor; description of this town -- Departure for the monastery of Saint Catherine -- Difficulty of the route -- Arrival at the monastery -- Description of the church and the garden -- Ascent of Mount.Sinai -- The magnificent panorama that suddenly unfolded before us -- On several questionable locations in the Bible -- Our return to the monastery and our return to Tor.

CHAPTER VIII.

Our explorations in the vicinity of Suez took several days; but when our work was over, we immediately secured passage on board a ship about to leave for Jidda. In return for 60 *thalaris* (about 500 francs in our money), the *reïz,* or captain, arranged to turn over to us the *dao* cabin of which he was in charge, to supply us with water during the journey, not to take on more than thirty passengers, and finally to stay six days at Tor, so that we would have time to visit Mount Sinai.

During the time that we had been staying in Egypt, we were completely safe. We met up with Europeans in almost all of the towns;

we found western dress and customs; we could have imagined that in some way we were in a civilized world. The picture was soon to change.

On September 1st at ten in the morning our leader set sail. The ship had only one mast. Its ancient structure resembled that of the Greek and Roman ships that used to sail the Arabian Gulf. Total length, 75 feet; width at its middle, 15; height 16. The mast, measured from the bottom of the hold, must have been 40 to 50 feet. There was no bridge; at the rear there was merely a small square recess 5 to 6 feet on a side that at a pinch offered protection from the sun's rays or from the dew at night. No launch to put to sea in case of danger, no compass, nor even a map; no sort of comfort or pastime available. As to comfort; what can we say? We must do justice to the venerable trireme. We had forgotten to bring a community kitchen stove; there were two small wicker casks suspended on both sides of the ship by palm ropes. The reader will be kind enough to forgive us if we don't explain what they were used for.

Given the look of this vessel, it won't require much effort to imagine the appearance of the crew.

You would notice five or six sailors commanded, or rather admonished, by a *reïz* who never knew how to read or write. Though the *reïz* lacked education, he clearly seemed to have a lot of experience. No one challenged the wisdom that he had acquired over the years; given the lines in his forehead or his white beard, this general opinion appeared to be correct. Imagine someone about seventy who since his earliest years regularly had made the trip from Suez to Jidda two or three times a year. Could there be an island whose name was unknown to this worthy seafarer? A single rock, a single creek, whose exact location he didn't know? When we came on board his vessel, he stepped forward to welcome us most graciously. He indulgently boasted of the excellence of his ship, which he told us, with pride, had defied the storms of the Red Sea for more than forty years. We were only too eager to believe him. The sight of the sails, patched up in a thousand places and streaked with all sorts of tattered rags bore eloquent witness to the words of the venerable *reïz.*

This hodgepodge of rags, the deterioration of the ship to which we were about to trust our lives, did nothing to reassure us, If we had to agree to it,

we thought a moment about postponing our departure. But after the rhetoric of the *reïz* we made up our minds despite our hesitation. *Allah Kherim!* God is great! Come what may, replied M. Rouget with all the solemnity of oriental resignation. We repeated: God alone is great! A final farewell to M. Costa our consular agent who was kind enough to see us on board, a cordial handshake, and there we were, trying to squeeze ourselves into the miserably small recess at the rear of that flimsy boat.

The *reïz,* less confined than we were, had already taken up his position at the helm. At his right were two Armenians on their way to Mecca. At his left were Saïd and Farrach, our two servants whom we had instructed to keep an eye on our baggage. Beneath them inside the whole rest of the ship were more than sixty pilgrims who against the rules were squatting down among the bales and crates. Each one had his pipe, his rug, his weapon, his mattress, and edible provisions, with only just enough space to sit down. Loaded this way, our ship offered the most picturesque view imaginable. From a distance, it easily could have been taken for part of the dock

gradually undermined by water, that suddenly was separated without a jolt, and was on its way over the sea, covered by its cargo.

But without worrying ourselves about the scene made by our boat, let's get back to one right in front of our own eyes. Someone following our glances would have found them most often focused on a single point. A veiled figure is what caught our attention. Several respectful servants pressed forward around this long veil, but their respect did not exclude a kind of intimacy.

Two unusually bright eyes, two hands, and fingers that seemed slender, young, and delicate, were all that we could glimpse, or at least all that we needed to discover. But the prophet didn't say that the wind, even a motion, an accident as it were, could never displace the veil. To be sure, the veil lifted almost constantly, perhaps as a sort of gift, and then we observed a most charming face. The Arabs enthusiastically compared it to the full moon shining at night in a cloudless sky. Our graceful stranger unquestionably possessed

both a smooth pallor and a lustrous radiance.

Who could this beautiful young woman be? There was much coquetry in her affected nonchalance. It was not unintentional that inclining her head from time to time, she attracted glances under the pretext of adjusting her veil. We could talk to her, and she did not resist the first stages of conversation. At the outset we wrongly believed (and our unknown lady understood that) that she was one of those charity passengers who fulfilled a sacred obligation by accompanying an expedition to soothe the hardship of true believers on the pilgrimage. God forgive us our mistake! This young veiled woman had nothing in common with the multitudes of charming missionaries of love promised by Fourier to the phalansterian world under a fictitious name. Beauty was allied with virtue in our lovely traveling companion. Besides, here is what we learned about her past:

She came from Tunis. Her husband had wished to fulfill the commandment to visit the Prophet's tomb once during his lifetime. She was happy to follow him. But hardly had the caravan from the Barbary States reached Cairo, when an illness lasting several days carried off her husband. What should she do after this unexpected blow? Return to Tunis?

But a woman couldn't cross the vast deserts alone. Stay in Cairo and wait for a caravan to depart? The loneliness in an unknown city seemed as sad as dying. So she decided to continue her route to Mecca hoping to find respite from her grief in the unavoidable distractions of the journey. With her pilgrimage accomplished, she would return to Egypt and go back to Tunis on the yearly caravan that goes across North Africa. Nothing seemed simpler for her. Our women in Paris don't talk about anything other than a walk in the park of Saint-Cloud or visiting the chateau at Versailles. It was like an extraordinary dream for us to see this young woman, this frail delicate creature who up until now was used to the carefree ease of the harem, undertaking a journey of several thousand leagues without giving it a thought. Even in reality we were incredulous; in addition we knew that all unmarried women were prohibited from making the pilgrimage to Mecca. How could the state of widowhood be reconciled with the law? All of the passengers were curious, sometimes even indiscreet. We put the question to the lovely Tunisian woman, who hastened to dispel our doubts.

Since the law requires that a woman who travels across sacred territory must be accompanied by her husband,

common practice resorts to a legal fiction to comply with the law. When a widow arrives in Jeddah, she first looks for a *delil*, in other words a guide, of proven integrity. She contracts a provisional marriage with him, and thanks to this fictitious union, she may tread the soil in the holy cities without desecrating it.

Every year at the time of the pilgrimage, widows are seen being followed by *delils* fulfilling the duties of honorary husbands. They actually are husbands after all, legally if not in fact. A legal contract was prepared by a cadi [*Translator's note*: a judge who interprets Islamic law], and no formality had been omitted. But the *delil* undertakes to renounce the wife after the ceremony of the Arafat. So much the better. But what if the *delil* refuses to keep his promise? And at bottom we think that even the most honest man could be tempted to forget it. In such a case, the law, which knows nothing of the fraud, likewise knows no punishment for it. It still continues to recognize the marriage as a serious marriage.

Nothing can compel the *delil* to renounce the wife. That's the risk that the young widow runs. But she wasn't afraid of that; a *delil* guilty of such a breach of confidence would without fail lose the title of *delil*, a most lucrative profession.

Beauty is a wonderful charm! All the passengers were dreamy at the sight of the young Tunisian woman, who soon was to contract a similar match. Concealed behind her long veil, she cast lingering glances at each one of them through her long eyelashes. The earnest pilgrim scrutinized her slightest movement. A single motion of hers touched the hearts of this silent crowd. Even our interpreter felt something more human underneath his thick shell. "I would give my right arm", he told a black man from Cordoufan, "just to bring this woman to the Arafat"; "and I", answered the black man, "would consent to be ill for two years of my life."

We must confess that as far as we were concerned, we were thinking, hardly perhaps in a noble spirit, about the hardship of our dangerous mission. We reckoned on the need to have both hands free, and we lacked the spare time to give up two years of our well-being. Caution prevented us from making unwise choices. However, our lively traveling companion, M. Rouget, made it a point to pursue simple French gallantry.

Starting out with a little humor, which had suited him in similar cases, he put on the air of a person bothered by the heat,

and the heat allowed him to play the part in a state of nature. Standing up, he leaned against the ship's cabin as though seeking a breeze and positioned himself next to the pilot with whom he exchanged a few words. He returned and sat down next to us. Intentionally steering the conversation that at the moment was about Tunis, he raised the subjects of the ship's masts, the wind, the seacoast. He complained once again about the sun's rays, with a lengthy analysis of their grievous effect on one's health. He finally got to his main point, in a suggestive peroration, actually an earnest entreaty, directed toward our female traveler that she be kind enough to occupy a place next to him under our humble roof.

The Tunisian woman at first greeted his proposition only with silence. Custom and appearance must be respected. Nevertheless a few moments later (had M. Rouget actually convinced her, or was it just in response to his courtesy?) and not willing to go inside the cabin, she laid out her rug in the shade of our lodging and settled down close to the spot that we were occupying.

You must never have traveled nor have experienced the feeling of exile and of loneliness on a ship, if you don't understand how full of refreshing charm a young woman's conversation felt on this part of our journey

and what fond memories of it we have kept in our hearts.

While we were conversing like this, assuredly about the great disrepute for the Muslim pilgrims, the time passed quickly, the sun seemed less scorching, the Arabian hills less dry and less barren, the shoreline everywhere ablaze with flowers and carpeted with greenery. All the while, our ship, driven by a favorable wind, glided rapidly over the waves. As we proceeded, a multitude of coral clusters appeared in the blue sea at the water's surface, only to disappear at once behind us. Finally, at three o'clock at night, we moored in the bay of Hamam-Pharaoh and we spent the night at anchor.

This spot on the coast is remarkable for the hot springs that give it its name. The water gushes out of a low mountain close to the shore and forms two springs that flow onto the beach. In one of them the temperature is up to 64° centig., and in the other to 68° centig. The surrounding air temperature is 35°5. The sulfurous vapor rising from the water gradually penetrates the rocks that they wash over and coats them with a thin layer of sulfur. The corrosion reduces their specific gravity.

Above these two springs are two large caves on the mountainside that look as though they had been dug into the rock by human hands.

If the Arabs are to be believed, these excavations extend much further into the mountain. They lead to an underground abyss roaring with torrents of boiling water. That's where God threw Pharaoh together with his army to punish the Egyptian ruler for his rebelliousness and his obstinate pursuit of the Hebrew people. We recount this story with no need to remind one that the Arab imagination always delighted in inventing fanciful tales.

At four o'clock in the morning our captain put to sea again. We greeted Cape Jehan, which thrust itself boldly into the midst of the waves. We passed by some sand banks lying underneath five or six fathoms of water, and sunset found us already in the harbor of Tor.

The village that gives this harbor its name once was one of the warehouses for the Indies of old. Today it no longer preserves anything of its former importance. Seen from the sea, it looks like a place captured by assault and destroyed by bombshells. If you visit there, you meet Arabs clothed in rags

amid tumbledown hovels full of debris. Often the houses don't have anyone in them. You push on a door and it opens, A broken-in roof hangs over the abandoned home. Smallpox had been there. The terrible plague that repeatedly strikes this shore had decimated its inhabitants. Emigration has dispersed the rest. Lizards, rats, the creatures of the night, these unclean and sinister occupants, have taken over where people had been.

As to the harbor, it appeared serviceable and secure. It could accommodate twenty to thirty ships of two hundred tons capacity. Nearby are several harbors where ships can take on fresh water. A hot spring surges from the foot of a limestone slope where there are many petrified shells of the same species as those that still live in the Red Sea. The temperature in this spring is 27° Réaumur. The ground is arable within a radius of half a league. The inhabitants have put this bit of cultivatable soil to good use. They've planted some gardens, and here and there they've put in several groves of palm trees that lift their robust trunks and green canopies to the sky.

In the space of a few hours we had visited everything of interest along the beach at Tor. On September 3, since there was nothing more to see there,

we hired dromedaries and set out for the monastery of Saint Catherine. Five Arabs, the actual owners of our riding animals, accompanied us and served as our guides. The weather was perfect. The weather was splendid, and the clean air inspired us with pleasure that changed to enthusiasm at the thought of penetrating into the heart of the Sinai peninsula, ennobled by recollections of biblical tradition. We were on our way, and after half an hour en route we already had lost sight of the coastal gardens and plantations. A short time later everything green disappeared. We entered a vast empty plain, where a traveler was the only sign of life. No trees, no dwellings, desert everywhere, desert from east to west, desert from the north all the way to the south, and the lonely sun, brilliant in an empty sky. Four hours of silence and soundless encounter with the sand. Time passed, and we reached the end of the plain. This is where the mountainous region began. Nothing drearier under the sun. Tangles of stunted bushes and wild shrubs weighed down under enormous stones. It looked like some battlefield where giants had clashed.

These granite areas slowly break loose from

the rock under the relentless action of the rainy seasons. The winter wears them away, their weight carries them down, and they roll with a crash into the bottoms of the defiles.

We soon enter a small sandy valley as arid as the mountains. However, God's creatures had come through it. Numerous footprints from a herd of camels are visible. The head of our retinue, Abdallah, went along slightly ahead of us. On his way he examined the tracks left on the sand with special attention. He promptly rejoined the caravan. Addressing his companions he announced with confidence: "A short while ago my cousin Mohammed came by here." His companions had to regard the matter as a certainty.

This isn't just credulity. In the desert there is a true science; it's called the science of *athr*. The Bedouin who studies it comes up with astonishing results. By looking at camel tracks he can tell you with certainty if they are old ones or those of the same day, whether the animal carried a heavy load, a lesser one, or none at all, or if he is tired out or has just begun his run. Are footprints from the forelegs deeper than those from the hindlegs? He concludes that the animal has weak lungs,

and in view of this defect he already knows the name of the animal's owner. The famous Burckardt cites a surprising example of this science of *athr*. An Arab when put to the test, recognized in front of him his own camel's footprint among a multitude of others printed in the ground. He went further; he named all the camels of his tribe that had followed the same route. When one hears about the desert police, one would be tempted to believe that such a thing is not possible. But surveillance is practiced there nevertheless, thanks to the science of *athr*. Out there where humans can't keep an eye on theft or murder, the earth itself becomes an unfailing witness and confounds the criminal with the credibility of an accomplice.

About five in the evening our guides announced that we were approaching a spring. The dromedaries apparently understood the good news, because they almost immediately picked up their pace, enthusiastically raising their heads. In less than a quarter of an hour we reached the campsite.

It was in a vast enclosure encircled by high mountains forming a wall of granite around it. A dozen palm trees shaded an attractive well. At the moment we arrived a young woman came forward alone with a pitcher on her head, and several steps farther back were a herd of sheep,

three or four camels, solemn, curious, restless, apparently waiting for clear access to the spring to quench their thirst. We didn't exactly look like Abraham's messengers; but it was as if we had seen the daughter of Bethuel, and we were tempted to tell her, as Eliezer did: give us a little water from the pitcher that we may slake our thirst.

At that moment we were at the dawn of civilization. The patriarchal world appeared and surrounded us on all sides. Full of recollections about the shepherd kings, we wished to spend the night in that place. We stepped down onto the ground. Our servants got busy right away preparing our evening meal. Night fell, and we went to sleep side by side with our camels.

By the following morning the rest and cool air had completely refreshed us from our fatigue. We felt cheerful, almost joyful at setting out again. We had got our strength back, but we were going to need it for a whole day. What a sky and what heat! Above all, what terrain! The path that we were following went across precipices, sandy valleys, narrow passes obstructed by rocky areas, steep slopes covered with a layer of smooth pebbles

that at any moment could make our dromedaries legs fail. A dreadful pain in the neck! Minute by minute we could expect a broken back. After stumbling along for two hours of shakes and jolts, the road got so bad that we had to continue on foot. Proceeding on foot with the temperature above 35°, climbing, clambering, descending, crawling through air on fire! Never did we wish more eagerly for a rest, never could we wait any longer for it. We hardly had arrived when we threw ourselves down on our rugs in the shade of a mimosa grove that appeared in the middle of the desert like a sea of green. But hardly had we stretched out, we realized that time marches on even for those asleep. We got up right away, afraid that nightfall would beat us to the gate of the convent.

Yet another stage! Not a breath of air, sweltering heat, an eternity of time. Entering the narrow gorges of Sinai, we hoped that their walls would provide a little shade. That hope soon was dashed. The mountain felt like a cascade of fire. The light streamed in, flooding over the granite. Soon the sun was directly overhead. We could have quoted the Arab poet:

" I have my shadow for shoes; I wear it like the soles of my feet." Sitting on our dromedaries five meters above the ground, exhausted by the heat, short of breath, our throats parched with thirst, we looked like a lot of lifeless convicts, proceeding unwillingly without knowing where they're going, only convinced that they must keep on going forward and get to the end of it. The dromedaries themselves felt the effect of the elevated temperature. They casually shambled along, lazily stretching their necks, stopping periodically to rummage the ground with their snouts while searching under the top layer for moisture that was missing on the surface. We were about to give up, defeated by exhaustion. What little energy we still had was almost all gone, when our guides finally announced that we were reaching the end of our trip. Indeed, we spotted almost immediately the pleasant little oasis of Saint Catherine, shining brightly, enhanced by the rays of the setting sun. Beyond it, rising above the clusters of greenery, majestic Mt. Sinai, crowned with the glory of the Lord. A moment later we drew our dromedaries up in front of the walls of the monastery.

It was located near two abundant springs used for irrigation

that enable the cultivation of a few useful plants in this corner of the desert. It is rectangular in shape, 300 feet long by 250 wide. It's surrounded by thick walls that make it look like a small fortress, a necessary precaution to protect it from pillaging by Bedouin. This is because every monastery in the Orient has some bloody history to relate. Sinai, more than all the others, stands alone, isolated in the middle of the sands, and is vulnerable to attack by Bedouin. We now appreciated what we had not grasped when we first arrived: the unwelcoming appearance of this holy place. We searched all around, but there wasn't the slightest indication of an entrance. What did this mean? No door into the house of the Lord? But just above us there was an open window shielded by a canopy. A monk cautiously put his head out to see what sort of visitors he was dealing with. He was the caloyer [*Translator's note:* a monk of the Eastern Orthodox church] of the monastery. Soon convinced that we were Europeans, he asked us if we had letters from the Patriarch of Cairo. When we replied affirmatively, he lowered a basket suspended at the end of a rope to bring them up. We put our dispatches in the basket, which then was pulled back up again. The monk took them and disappeared. After a quarter hour wait

the rope slid down along the wall once again. But this time the basket had been replaced by a sturdy bar fastened crosswise that we were meant to use as a ladder. We sat astride it, each one of us after the other, and in less than ten minutes we all were assembled inside the monastery.

Imagine as it were, a tiny Arab village made up of single story-houses, sparkling clean, and inhabited by monks.

The head of the monastery offered us a most cordial welcome. On his orders we were led to a spacious chamber, cheerful in appearance and furnished with rugs, They allowed us time to dress and wash up, and one of the monks politely came to tell us that dinner was served. The meal consisted of eggs, rice, dates, cheese, and delicious grapes. The wonderful clusters of grapes brought back from the Promised Land by the messengers of Israel certainly had not been picked from any vines other than these [*Translator's note*: Numbers 13:23]. No wine, that's true. But the water was so good and so fresh that the taste of the best wines would have seemed coarse next to this liquid jewel, this exquisite milk drawn from the kind breast of Mother Nature. After finishing the meal we stayed for another hour to talk with the monks.

We then retired to our chamber to rest up and prepare ourselves for the next day's excursions.

The monastery's church was worthy of our first visit. It is truly a singular edifice; a basilica that blends two architectural styles, Byzantine and Romanesque. Upon entering one at first admires the ceiling decorated with stars, set off by moldings of gold gleaming on an azure background. A double row of marble columns supports semi-circular arches that hold up the roof. Beauty and austerity of design, the pure majestic lines, nothing detracts from the monument's religious character, not even the impression made by the more extravagant display of gilding and ornaments. The walls are covered with paintings and brilliant mosaics. The paving stones form another mosaic, made of a variety of marble slabs. The candelabra are silver; the paneling in the sanctuary is cedar, carved and gilded. The altar, and the columns decorating it, is inlaid with shell and mother-of-pearl. The cross itself, the cross of the Son of Man, doesn't escape the artist's imagination; he has made it a precious jewel, overloaded with very fanciful and fastidious sculptures.

The apse is built in an awesome place: it rises above the exact site

of one of the greatest scenes from biblical times:

[*Translator's note*: The following passage is from the Bible, Exodus 3: 1-10, King James Version].

1 "Now Moses kept the flock of Jethro his father in law, the priest of Midian: and he led the flock to the backside of the desert, and came to the mountain of God, even to Horeb.

2 " And the angel of the Lord appeared unto him in a flame of fire out of the midst of a bush: and he looked, and behold, the bush burned with fire, and the bush was not consumed.

3 " And Moses said, I will now turn aside, and see this great sight, why the bush is not burnt.

4 " And when the Lord saw that he turned aside to see, God called unto him out of the midst of the bush, and said, Moses, Moses. And he said, Here am I.

5 " And he said, Draw not nigh hither: put off thy shoes from off thy feet, for the place whereon thou standest is holy ground.

6 " Moreover he said, I am the God of thy father, the God of Abraham, the God of Isaac, and the God of Jacob. And Moses hid his face; for he was afraid to look upon God.

7 " And the Lord said, I have surely seen the affliction of my people which are in Egypt and have heard their cry by reason of their taskmasters;

8 " For I know their sorrows; And I am come down to deliver them out of the hand of the Egyptians,

and to bring them up out of that land unto a good land and a large, unto a land flowing with milk and honey; unto the place of the Canaanites, and the Hittites, and the Amorites, and the Perizzites, and the Hivites, and the Jebusites.

9 " Now therefore, behold, the cry of the children of Israel is come unto me: and I have also seen the oppression wherewith the Egyptians oppress them.

10 " Come now therefore, and I will send thee unto Pharaoh, that thou mayest bring forth my people the children of Israel out of Egypt.

Repeating a story like that in one's mind, and when the place itself speaks to its repetition, the heart in its turn responds with a religious trembling. Whatever a person's belief, regardless of his doubts, whether he is Christian or Muslim, a philosopher, a historian, or a moralist, the chapel at Sinai forever remains the starting point of an idea that changed the world. It was from there that the son of Amram [*Translator's note*: i.e. Moses], a man above men, a humble shepherd and already familiar with the broader picture of society, at the Lord's command set out to wrest the Hebrews from the cult of idolatry and proclaim the oneness of the God of Abraham, of Isaac, and of Jacob. A sublime revelation that soon would confront polytheism

with an insurmountable barrier, and after a few years would become the universal faith of all nations.

We left this place, our souls stirred with deep emotion. Several gates opened up and closed again for us. Faithfully following the good father who served as our guide, we successively visited two or three small chapels, the Muslim mosque, the library and the refectory, where frescoes painted on the walls depicted several grotesque scenes of paradise and hell.

The garden where we were taken next is truly a marvel. Again we were at a loss to understand how such forbidding soil could be rendered fertile and compelled to yield so many trees of such beauty. Olive, almond, lemon, date, cypress, their branches interwoven with vines on all sides, formed a canopy of green that provided delightful shade in this part of the desert.

We strolled for several hours along the pathways of this magnificent orchard. Later we went back into the monastery, after deciding that we would devote the following day to the ascent of Mt. Sinai.

The first light of sunrise found us at the foot of the holy mountain.

The monk who accompanied us took us up a long stairway of disjointed flagstones, deteriorated by rainfall that during storms came down in torrents from the highest peaks. About a third of the way up we came across an arched gate surmounted by a small iron cross. A tradition linked to it never fails to inspire the faith of the traveler.

"A Jew, as the story goes, had one day wished to climb Mt. Sinai. A cross appeared in front of him and resolutely blocked his passage. The Jew tried in vain several times to circumvent the obstacle, but his attempts were useless. Whichever way he turned, the miraculous cross moved to confront him and to prevent him from going further. Astonished by this marvel, the Jew converted, and on his knees he requested the grace of baptism. His guide poured water over his forehead from a nearby spring, and the new Christian felt himself being drawn gently to the top of the mountain. His example led to the conversion of many of his own people."

Beyond that gate there was a second quite similar one. We clambered over several more steep rocks and reached the neck that separates the summits of Horeb and Sinai. The neck forms a small plateau. Nature thus had prepared a rest stop there for pilgrims already worn out from the first ascent.

That is the location of the famous cave where Elijah the prophet lived for forty days to commune with the Lord [*Translator's note:* I Kings 19: 8,9]. The spot is marked by a Greek chapel decorated with an altar and some crude paintings. The chapel is in ruins. A cypress and several olive trees grow very close by. Their evergreen branches refresh the eye, exhausted from the barren rocks that make up the structure of the mountain. We made a stop there to visit the interior of the chapel. After a moment to recall the event to which it was dedicated, we set out again to ascend Mt. Sinai, whose summit we could make out distinctly a short distance above us.

As we got nearer, the trail along the mountainside became steeper and more difficult. Soon we were confronted by an enormous block of granite. The Arabs in our group stopped us to point out the footprints of the camel that carried Mohammed to the summit of Mt. Sinai. Our small retinue prostrated themselves and reverently kissed these venerable tracks. We ourselves contemplated them for a moment. We then resumed our route and went to rejoin the monk from the monastery, who was anxious to keep the two traditions separate

and was waiting for us near the stone overlooking the plain of Rephidim where Moses, according to the Bible, raised his hands toward heaven.

[*Translator's note*: The following passage is from Exodus 17: 8-13, King James Version].

" Then came Amalek, and fought with Israel in Rephidim.

" And Moses said unto Joshua, Choose us out men, and go out, fight with Amalek: tomorrow I will stand on the top of the hill with the rod of God in mine hand.

" So Joshua did as Moses had said to him, and fought with Amalek: and Moses, Aaron, and Hur went up to the top of the hill.

" And it came to pass, when Moses held up his hand, that Israel prevailed: and when he let down his hand, Amalek prevailed.

"But Moses' hands were heavy; and they took a stone, and put it under him, and he sat thereon; and Aaron and Hur stayed up his hands, the one on the one side, and the other on the other side; and his hands were steady until the going down of the sun.

" And Joshua discomfited Amalek and his people with the edge of the sword."

At last, after two hours of laborious climbing, we reached the summit of the holy mountain.

What a magnificent panorama unfolded right before our eyes!

All of nature's austerity, harshness, and majesty were below our feet, beside us, and all around us. Everywhere as far as the eye could see we could make out only parched mountains, sharp rocks, cliffs with peaks, places that appeared utterly wild and desolate. One would have said that the entire region had been overturned the day before by a cataclysm of nature. Even more likely one could have taken it for a petrified sea that suddenly had been turned to stone at the height of a storm, thus confirming the passage from scripture: [*Translator's note*: The following passage is from the Bible, I Kings 19: 11, King James Version.]

" The Lord said to Elijah: Go forth, and stand upon the mount before the Lord. And, behold, the Lord passed by, and a great and strong wind rent the mountains, and brake in pieces the rocks before the Lord; but the Lord was not in the wind: and after the wind an earthquake; but the Lord was not in the earthquake."

In the face of this picture of ruin and desolation, in the presence of this bleak emptiness, this overwhelming solitude, we felt a tightening in the chest in spite of ourselves. We experienced something of the religious awe that made the Israelites tremble, prostrate at the foot of the holy mountain

when the Lord revealed his law in the midst of the thunderstorm.

For a moment we remained motionless and entirely at one with this imposing spectacle, still awe-inspiring after thirty centuries. At our leisure we reflected on the magnificent drama of most of the great scenes recounted in Exodus. Later we went back down the mountain. The good father was with us the whole time. He didn't want to let us return to the monastery without having shown us the famous rock that miraculously became a spring when Moses struck it with his rod. We assuredly had never felt more vividly the irresistible hold that tradition has on the human imagination than we did during this excursion. In the tropics the traveler comes across the magnificence of unspoiled nature at every step of the way. But those huge trees, those deep rivers bearing meager vessels of illusion connected to memories of glory and grandeur inspire no sentiments that stir the heart or lift the soul. On the contrary, in the Orient everything declares, proclaims, and relates comfort and sublime mystery to the mind. Almost all of the doctrines that govern us were born there. From there emerged the religious principles that form the imperishable rules of our public morals and our consciences.

It's already been said that the New World, golden, exposed, without forebears, will be given over to commerce. The Old World with its granite hieroglyphs and its biblical monuments is the domain of poetry.

Before leaving the Sinai peninsula for good, we had wanted to again visit all the other famous places in Scripture, to explore most of the dry valleys that echoed so often with the complaints of the Hebrews; to travel through the field of battle of Rephidim, to accompany the Children of Israel to the burning sands of Caleb as far as those of Paran, and to climb to the top of Mt. Nebo, like the lawgiver of the Hebrews, to view the land of Canaan. But our mission was calling us to countries less renowned and much farther away, and we couldn't accomplish this sacred pilgrimage. The amount of time we had set aside for visiting the Sinai was already behind us. We had to think about preparing for our departure. So on the morning of August 27 we went to the father superior to thank him for the generous hospitality he had accorded us. We then exited the monastery the way we had come in, through the window that served as the doorway to the outside,

and after bidding a final farewell to this haven built through the piety of the faithful in the midst of the sands of the desert, we resumed the route to Tor. We arrived there the following day at ten in the morning.

SUMMARY of Chapter IX

View of the seaside at Tor.-- We find a crowd of pilgrims on their way to Mecca-- Meeting with a young Englishman whom we knew in Cairo -- Departure from Tor -- Arab navigation in the Red Sea -- We pass Cape Mohammed -- Stormy crossing of the Gulf of Aqaba -- Port of Aynunah -- Reasons that lead us to believe that this port was the ancient Leuce-Come -- The port of El Ouich -- Meeting with M. Rochet on his way back from Abyssinia -- Yanbu; description -- Arrival at Jeddah -- Description of the town -- Its population -- Customs of the inhabitants -- The crowd of beggars there.

CHAPTER IX.

During our visit to Mount Sinai there was an extremely strong north wind that never stopped blowing. Many ships full of pilgrims were unable to put to sea. The heavy weather forced them to seek refuge in the anchorage at Tor. The entire appearance of the place came alive.

At that moment the harbor was covered with craft tossing on the water. A forest of masts rocked by the motion of the waves dipped and rose in turn. They were like a grove of palm trees swaying in the wind.

Tents of all shapes and sizes livened up the dreariness of the shoreline with their variety of colors. Here and there along the harbor

were groups of sailors busy patching up their sails, half-naked blacks lying listlessly on the sand, magnificently dressed pilgrims, and slaves attentively offering them their pipes. Further along at the horizon were Arabs in rags carrying water, wood, and provisions for this multitude that were all assembled at once on a deserted beach.

Without a doubt the descendants of Ishmael still are a nomadic race. Even an Englishman doesn't know how to travel compared with the Arab pilgrims. No matter where the man from the Orient goes, he keeps house even if it's in open air; you would say he is within the four walls of his own home. He lacks nothing: cooking utensils, provisions and stoves, pipes and parasols, books and guns; a rug to settle down on, cushions to lean on, even women shared to relieve the boredom of the trip. And all of this makes its appearance only when he makes a stop. If you saw him on the move, his traveling gear would not even seem as elaborate as that of a tourist from the Three Kingdoms having an apathetic view between Egypt and Syria.

While we were admiring these skillful arrangements and taking in the new faces,

we uttered a cry of surprise. We recognized a familiar face: M. Bell! It really was he, it really was M. Bell, a young Englishman, definitely not a tourist. Thank heavens! At the age of 22 M. Bell already had been to Egypt, Nubia, the deserts along the Euphrates, and he was planning to explore the sources of the Nile. A capricious wind had landed him in the harbor at Tor. Having met us, he didn't want to leave us again and offered to join up with us. We enthusiastically agreed. At that instant our small group added a devoted companion, a courageous friend whose constant lively spirit, quick good humor, ready warmth and inexhaustible energy often made us forget the weariness of the long marches and the tedium of the interminable days in Abyssinia.

We were very impatient to put to sea again. We started out by berating the wind like the heroes of antiquity. The Greek army on their way to Troy couldn't have challenged it to blow more energetically. Finally however the squalls began to abate on the 10th. On the morning of the 11th the tents came down and the pilgrims packed up their luggage once again. Everyone went back to their ships, and the *Pearl of the Orient* - that was our boat, it was nothing more than that - the *Pearl of the Orient* in a gentler wind unfurled its sails that looked like quilts of variegated old rags.

Let's recall the deal we had made with the ship's captain. He was committed to taking on board only a small number of passengers, and he was not about to go back on his word. For our part we had no cause for complaint, and everything went fine during the first part of our crossing. The ship was overfull, but nobody had contested our priority. At this second departure the mood changed. The absent are always in the wrong, says the proverb, and the proverb speaks the truth. Maybe our visit to Sinai allowed some hotheads the spare time to get worked up. The large number of assembled pilgrims had inflamed the intensity of Muslim fanaticism so much that our traveling companions viewed us with rage. A group of wretches crouching in front of the door to our quarters seemed to envy us even for the air that we breathed. It enraged them to see these *dogs of Christians* occupying the best spot on the boat. "Now what??" one of their most exasperated ones cried out. "The children of the Prophet don't count for anything anymore? Everything is for the Christians. They come into our mosques, they join in our festivities, our ceremonies, and we don't bother them. *Allah inhala hum!* God's curse be upon them! The end of the world is near, and the earth is already in the devil's hands."

This outburst only partly bothered us. We understood our own strength and the weakness of these poor devils well enough. We put up a good appearance in the face of these outcries. We resolutely stood our ground, and the hatred aroused in a moment soon subsided. The bitterness was tempered; it ended and disappeared in our concern for the common risks and preoccupations with the dangers of the journey ahead.

It must be said that sailing on Arab boats is dangerous. Instead of putting out to sea where at worst they would encounter only a rare obstacle, they apprehensively skirt the coastline, threading their way through labyrinths of sand banks, clusters of coral, and rocks at the water's surface. They have no charts to guide them, no sounding-lines to measure water depth. There is only a sailor posted at the prow of the ship or on top of the mast to signal danger when he sees it. But if the *reiz* doesn't hear the warning cry, if he hears it a few seconds too late, if he hesitates or steers incorrectly, or if inside a narrow passage he pulls a little too much to the right or to the left, the traveler runs the risk of a miserable death on a deserted beach. That could happen even when a favorable wind promised him a successful sailing and trusting to a sunny sky a completely calm sea,

he let his mind wander, lulled in a peaceful daydream of expectation.

The native people here must sail during daylight; there's no problem understanding that. For a long time the Arabs have learned that from experience. Accordingly, the pilot stops his boat every evening either in a cove along the coast or behind a small coral island and spends the night at anchor. So there are reefs there; so what! The Arabs never think of themselves as being more secure than when they're in the midst of great danger. Morning then dawns on the horizon. If the wind isn't too strong, the captain sets sail. If that's not the case, the passengers wait resignedly for weeks on end for the return of good weather.

That's the way Solomon's fleets navigated these same parts when they left the ports of Eilat and Etzion Geber on their way to the east coast of Africa in search of gold, ivory, and all the other precious materials used to ornament the temple in Jerusalem. "Thy rowers have brought thee into great waters" says the prophet Ezekiel, "the east wind hath broken thee in the midst of the seas." [*Translator's note*: Ezekiel 27:26, King James Version]. The east wind that the prophet speaks of is the monsoon from the northeast. It prevails during the summer, as we said before, in the northern regions of the Red Sea,

and it makes crossing of the Gulf of Aqaba extremely dangerous. The *Pearl of the Orient* would soon have to undergo this grim trial.

We had been en route for two days and had just passed Cape Mohammed, when suddenly we were caught by surprise in the midst of a stormy sea by north and northeast winds that were blowing hard in the gulfs of Suez and Aqaba. Battered by angry waves, thrown from side to side, tossed without pause between crashing surges as though between two monstrous hands, the *Pearl of the Orient* groaned miserably, and each groan echoed in the heart of every passenger. Lifted in turn to the summits of the waves and then flung into their deep valleys, it seemed that at any moment the sea would swallow us into the abyss. The *reiz* had abandoned his vaunted grandiloquence. Even he himself feared for his dilapidated vessel, and threatened by the danger he considered heading back to shore. But to turn off course would be more dangerous. Heading straight ahead was still the safest. So we were forced to hold out until the storm's onslaught ended. No chance to rest. From noon until four in the evening we didn't stop riding the waves. And that's not all;

here we were caught up between the angry waves and human fury. Our fanatical fellow passengers rose up against us. They loudly blamed us for the stormy sea. They beseeched the Prophet's pardon for the crime of sailing with Christians. Nevertheless, at sunset the winds began to let up, the tempest abated, the waves gradually subsided, and there was a patch of blue in the sky. We had some peace of mind once again, our spirits were refreshed, and to everyone's delight, the *Pearl of the Orient* reached the small harbor of Aynunah on the coast of the Hejaz, where we anchored for the night.

So here we were, our feet on solid ground. Who could think about bad weather now? We dried ourselves, we shook ourselves out of it, and we congratulated one another on our escape from danger.

At this point near the seashore we spotted some large ruins. What were they? They seemed to have been part of a vast maritime settlement, and their coral rocks close the shore appeared to be unusually white. Could Aynunah thus have been the ancient *Leuce-Come,* or the White Harbor of the ancients, the rich warehouse port once destined to receive various goods that came from south of the Red Sea and that then were carried by camelback to Petra

to avoid the hazardous voyage through the Gulf of Aqaba.

First let's admit that this hypothesis has neither the support of Bochard nor that of the celebrated Danville going for it. These two scholars of geography recognize, or believe that they recognize the White Harbor in a town named Haüra located near the Isle of Al Hasani at 25° north latitude. As much as we respect their work, we would like to offer two counter arguments.

Firstly, circumnavigation of Hannon places *Leucé* north of Myos-Hormos, and the town of Haüra is much farther south.

Secondly, Strabo, describing the expedition of Œlius-Gallus, reports that the Roman army disembarked at *Leucé* in the land of the Nabateans. As this land was bordered on the south by the district of the Thamdani, and the Thamdani at that time were at war with the Romans, if *Leucé* had been near Al Hasani, one would have to conclude that Œlius-Gallus would have put his army ashore in enemy territory. This conclusion would lack credibility.

Let's return to our own hypothesis. It doesn't raise either of these two objections. The configuration of the coastline close to Aynunah accords perfectly with the description of the surroundings of *Leucé* left by the ancient geographers.

We can add that the anchorage of Aynunah is completely sheltered against the raging north winds by the islands of Tiran, Sanafir, and Barqan. This is an indispensable condition for a port where a multitude of ships loaded with precious merchandise were anchoring every day.

On the 15th we set out to sea at ten in the morning. That same day we reached the port of Al Muwaylih.

On the 16th and the 17th the *Pearl of the Orient* continued along the coast. We sailed during the day and stopped at nightfall, putting in at a series of several coves.

On the 18th at four in the evening we dropped anchor in the port of El Ouïch [*Translator's note:* possibly Al Wajh?].

El Ouïch is called a village. It's rather a collection of huts leaning against coral rocks that overlook the burning sands of the shore. Its surroundings are devastatingly barren. Nevertheless all the ships find sufficient food and water there.

We have no complaints about El Ouïch. This small Arab village still held a pleasant experience for us. The evening that we arrived a boat had just anchored near us. There was a European traveler on board. We joyfully greeted this fellow westerner; we spoke to him in French,

and the traveler, one of our brethren, answered us in our mutual tongue.

That's how we met M. Rochet d'Hericourt. Our intrepid compatriot at that moment was on his way back from Choa. He had entered it through the country of the *Adels*, that no one had ever been through before him. Full of valuable information, he generously put it at our disposal. We were together that night; we parted company the following morning, he to return to France, and we, less happily, to make our way down to Abyssinia. How could we deny a feeling of sadness at that moment? What would be the outcome of our mission? We still didn't know. We didn't even know if we would be allowed to enter into the heart of a savage country.

We left El Ouïch on the 19th at two o'clock and arrived at Jebel Hasani on the 20th. We entered the port of Yanbu under full sail on the 21st. The port of *Yanbu al Bahr*, Yanbu by the Sea, should not be confused with *Yanbu al Nakel*, or Yanbu of the Palm Trees, a village located farther south at a place that formerly was probably under water.

Yanbu al Bahr, where we had just cast anchor, is built on a desolate beach. High tide deposits algae and marine plants on the beach;

Every day the burning sun bakes this residue, and it ferments. Noxious fumes and infectious vapors emerge from it spreading deadly fevers from a source that never dies out. Around the town there is a crenellated wall; a weak defense that couldn't stop a cannon. Its trade, almost entirely imports, is insignificant; it consists mainly of supplies destined for Medina as well as for parts of the provinces of the Nedj and the Hejaz. Water, a scarce and valuable commodity which must be purchased everywhere along the Red Sea coast, is sold here at an exorbitant price.

Our need to procure several containers of it made us prolong our stay in Yanbu much longer than we would have wished. But this necessary stopover in port gave us an opportunity to visit the town's surroundings, where we could see the Bedr mountains that were pointed out to us in the distance.

On the 22nd the *Pearl of the Orient* left Yanbu. Contrary to Arab custom, we were at sea for twenty-four hours straight; on the 23rd at nightfall we entered the port of Rabah. An Arab boat anchored at the end of the harbor hoisted a lantern to guide our captain, and our vessel was able to slip through the reefs.

Rabah marks the northern boundary

of the sacred territory on this coast. At Rabah Muslim pilgrims arriving from Egypt customarily shave their heads. After performing their ablutions, they put on the *hiram*, a white cloth that they wrap around themselves in the ancient fashion. Thus purified, they no longer fear setting foot upon holy ground.

Our traveling companions were careful not to overlook this pious ritual. They spent nearly an hour on the shore washing their bodies with the usual ceremony. In their fresh garb, barefoot, bareheaded, with contrite appearance and humble countenance, they no longer were the same people. They actually had become penitents honestly atoning for their sins and calling on heaven to witness the sincerity of their repentance.

Religion dignifies everything it touches. Up to this point the outward appearance of these pilgrims, their attitudes, gestures, their very breath, the way they declared the names of God or the holy city of Mecca a hundred times an hour, we thought was just dangerous fanaticism. But after this moment the ardor of their faith and the sincerity of their beliefs reconciled us to their religious spirit, which was, so to speak, merely an outburst of righteousness.

Seeing them so profoundly moved, we became more lenient toward them. We felt more compassionate than angry for the mistakes, prejudices, and superstitions that they had ostentatiously displayed ever since our departure. Alas! Superstitions, errors, and prejudices don't always stem from respectable feelings, like the need to worship and to believe, and to prostrate one's heart before the deity!

Having put on the *hiram*, the *hadjis* all resumed their places on board. Once there and squatting on their haunches for as long as the journey lasted, they never stopped reciting their prayers and reading the Koran.

At noon on the following day, a sailor pointed out the minarets of Jeddah in the distance. Shortly thereafter we found ourselves among three rows of rocks that ran parallel to the shore that act as a natural breakwater to protect the town's port on the west. The *Pearl of the Orient*, proceeding impressively between these rows of exposed rocks, bypassed Jeddah and subsequently reached the *Bogaz*, a narrow passage to the south that led into the harbor. Finally, at one o'clock, we dropped anchor about 1500 meters from the town walls. The crossing had lasted 33 days.

Seen from the sea, Jeddah with its white houses and many minarets, is a pleasing sight.

It seemed that once entering the town, we would find order, cleanliness and comfort. But after landing there, that illusion disappeared. Jeddah is like a sepulchre from the gospel: white on the outside, decay within. The streets are narrow, the houses frequently falling into ruin. No special monument is visible anywhere. It goes without saying that there's no pavement and no lighting. Only the bazaar deserves the traveler's attention because of the arrangement and distribution of its different shops. In Europe the neighbor of an elegant milliner could be a coal vendor or a coppersmith. Sometimes only a thin partition would separate a gracious boudoir from a stall or a smoky den. There's nothing like that here. Each kind of merchandise is assigned its proper place. In an instant the buyer can see everything and choose whatever he wishes.

The Turks called Jeddah a fortress, but the town has no real defense. The first European ship to appear in front of its walls surmounted by small turrets and randomly equipped with several ineffective cannons could enter it in a few hours without losing a single sailor. The residents are so careless that they haven't even protected the cisterns situated outside their enclosure from attack.

However, these cisterns supply at the very least a large portion of the water that the town needs every day.

We had letters of introduction for M. Fresnel, the French consul in Jeddah. M. Fresnel is a very distinguished Orientalist. In addition to his fine character, his talent and deep grasp of the Arab language won him the affection of the sherif of Mecca. Every day M. Fresnel uses his influence with the chief of the Hejaz to provide help not only to his countrymen but to all Europeans without exception, for which he could not be thanked enough. For our part, he offered us the most gracious hospitality possible at his lodging. Our quarters were furnished oriental style. His home became our own; on the divans as well as at his table we relaxed comfortably after the hardship of the voyage.

At M. Fresnel's we met two more of our compatriots, two people whom we were happy to meet at that time. One was the gallant Colonel Mari. There was no engagement of Egyptian troops in the Hejaz where Colonel Mari didn't play a brilliant role; his merit was legendary. The other one, M. Chedufeau, chief surgeon of the Arab armies,

enjoyed in Jeddah a well-deserved reputation for his skill. They both provided useful information about the town's inhabitants, and they placed at our disposal a great deal of valuable material about the geography of the Hejaz.

The population of Jeddah is about 20,000 souls. But this number can almost double during the pilgrimage. On every step of our way through the streets while we were there, we encountered pilgrims from every part of the Orient. The Ethiopian pilgrim wearing his long white robe in Roman style; the pilgrim from Persia in a magnificent costume; the Armenian in flowing robes; the maghrebi from Morocco wrapped in his immense burnous; the black from Senegal; the Bedouin from the desert, the merchant from Mosul, the lascar from India, and the native of the Malaysian Islands. Following the Feast of Arafat, most of the pilgrims return to their homelands. Nevertheless, out of weariness or the wish to remain longer in the holy country, a certain number each year postpone their departure for several months, marry Gallah slaves, become fathers, and frequently end up settling in Jeddah. The population is made up of elements of that mixed multitude. Almost all of the inhabitants, except for several sherif families,

are foreigners or derive from foreign stock.

Despite these diverse origins, their residence, their everyday customs, their mingled and propagated blood lines, constitute a particular race with generally recognizable features. Jeddah's inhabitants have an aquiline nose, high foreheads, large, lively, well-shaped eyes, tall stature, slightly thick lips and very tanned skin.

Their elegant clothing is not very different from that of the Egyptians. Men of higher station wear the *bernich* or overcoat, the *djebbé*, the tarboosh, the turban, and yellow slippers.

Women wear a dress, drawers, the *melayé*, and the burka, or obligatory veil. The poorer classes usually wear only a coarse fabric shirt, and underneath, instead of trousers, a cloth tied around the loins.

One of the greatest obstacles on the path to civilization for the inhabitants of Jeddah, as well as for the rest of the Muslims, is polygamy. This right that allows a man to possess several wives soon causes annoyance. This in turn gives rise to jealousy, and in the end jealousy leads to seclusion, which in many ways is consistent with the despotic mentality of the Orient. In Jeddah, seclusion is almost as strict as in a cloister.

Completely closed off inside their buildings and kept hidden by eunuchs, the women can talk only to their fathers, their brothers, and at most to their first cousins. That is the limit of their world, and they can't see beyond the windows of their harem. They never cross the threshold of their house unless it's to go visiting, and still they are veiled head to toe and watched by the eunuchs who are never more than one step away. It's unseemly to look at them passing in the street, and even more so to talk to them. One doesn't even inquire after their health. If they are unwell, the doctor will prescribe a remedy without their having to remove their veil; their pulse is taken through a piece of muslin. If their illness requires surgery, they will have to die without help. Their master will allow a stranger to look only at their face. Pale, capricious, whimsical, they waste their lives among the monotonous diversions and the endless tedium of the harem. Above all they need remedies to soothe their nervous irritability. Poor creatures! They deceive themselves and they deceive their oppressors. Remedies! There's nothing for it other than distraction, a human voice, and a few friendly words.

It's not the medicine that they need, it's the medic.

Nevertheless, we don't blame the Arabs' lawgiver. Mohammed did not make women in the Orient suffer under this burden. Polygamy existed before his time. Although he didn't abolish it, he at least reduced to four the number of women that a man may legally possess. If you open the Koran, you will see that he held a place in his heart for the sex that is oppressed by this custom. Everywhere in it he expresses his concern for the wife, for the ordinary concubine, even for the lot of a slave. He guarantees the rights of one and freedom for the other. He doesn't forget the child in its mother's arms. On almost every page of the holy book women are described in the most gracious terms and with the most poetic imagery. He declares that they were created with the fragrance of roses for man's happiness. Bestowing infinite perfection upon them at once, he transported them into that future world of delight where their love will be a reward for the righteous and for the faithful soldier.

You can see how his concern is revealed in this inspired passage from the book:

"Those who accuse a virtuous woman of adultery

without bringing four witnesses shall be punished with eight lashes of the whip.

"Whoever accuses his wife and has brought no other witnesses than the two of them, must swear four times before God that he is telling the truth.

"And a fifth time to call upon himself the curse of heaven if he has lied.

"No punishment shall be inflicted upon a woman if she swears four times before God that her husband has lied.

"And a fifth time to call upon herself the curse of heaven if that which her husband has asserted is true.

It's a rule replete with moderation and with leniency.

Regrettably this precept has fallen into neglect. Where the Prophet had been correct, the Muslim has closed his eyes and has become a barbarian. In oriental countries the woman often is mistreated. The husband misuses divorce. The companion given to him by God he regards merely as a piece of furniture that can be exchanged and renewed to his liking.

In Jeddah people of modest means have only one lawful wife. But the rich have three or four, not counting an unlimited number of concubines who are extremely costly to maintain. Furthermore, this multitude of concubine slaves isn't their only major expense.

Their homes are sumptuous and their dinners are magnificent. Several of the merchants whose names were mentioned really do live luxuriously. Everyday at their meals these modern-day Lucullans are served the choicest meats and the rarest of fruits from Asia and Africa.

This prosperous lifestyle, and without doubt the benign rule of the great sherif as well, apparently have favorably influenced the character of the inhabitants of Jeddah. The wealthy, or even those simply well off, have an inexhaustible depth of good humor revealed in their conversation by their lively spirits and flashes of wit full of charm and joviality in very good taste. Thank heaven they were not like the Turks with their proverbial solemnity, which most often is simply a disguise for stupidity. But make no mistake: laugh along with the Jeddaites, but remember that they are the children of the Prophet. Beneath their easy manner there always resides fanaticism, pride, and superstition. A profound ignorance lurks there, that of the Orient. The two concerns for residents of Jeddah are worship in the mosque on one hand and trade on the other, to which all of them without exception devote themselves as soon as they can buy anything that can be resold.

There is no industry, or very little. Since industry is not encouraged, skills are reduced to only the most essential: for example masonry, if that's a skill, and those of the carpenter and the blacksmith. As to others, everyone has to try to make do on his own without recourse to the help of an artisan.

To this can be added the peculiar pride of blood and race that still is traditional in Spain, which once had been Arab. Not a soul in Jeddah or in the towns of the holy territory would consent to work either as a household servant or as a porter unless he were starving. A Jeddaite has a right to be a beggar and to subsist on charity and idleness. Unless the public dole is completely unable to meet his needs, it's rare that he would put work between his laziness and poverty. Furthermore, after Malta and Dublin, Jeddah possibly is the city with the most poor people in the world.

At pilgrimage time the streets and the public squares literally are blocked with them. In the bazaars, on the docks, at the doors of the mosques and the houses all you hear echoing in your ears is the word *mesquin, ana mesquin,* I am poor, I am poor. Begging is such a well-known profession that it is practiced with pride and haughty arrogance.

When you pass near these poor wretches in rags, they tell you that if you don't want to repudiate the blessings of the faithful, you must remember your duty to the pilgrims: give, and it shall be given unto you [*Translator's note:* Luke 6:38, King James version].

Burckhardt describes this characteristic trait: while he was in Jeddah, he watched a beggar from Yemen go to the top of one of the minarets in the town every day after prayers and cry out in a clear strong voice: I ask God for fifty full piasters, a complete suit of clothes, and a copy of the Koran. Oh ye faithful ones! Listen to me! I ask of God a copy of the Koran, a complete suit of clothes, and fifty full piasters. Responding to this unusual appeal, a Turk offered the man 30 full piasters, in other words 150 pounds. It was already a decent amount. An ordinary beggar would have accepted it. The man scornfully turned his head away, stating that God was rich enough to provide for all of his needs. The next day he calmly went back up to the top of the minaret, and every day for two months he tirelessly repeated his regular demand at the noon hour. His perseverance proved eminently successful. Struck by his self-assurance, but at the same time worn out by his tiresome clamor, the Ottoman ruler obtained the various objects that the beggar demanded and gave them to him, imploring him to put an end to the cries

that were abusing the good will of the public. The pilgrim took the money as though he were a creditor getting what was owed to him. He wrapped the Koran in the clothing sent to him from heaven, and putting all of it under his arm, he took off, telling the Turk: I thank the Lord for having placed you in my path; I was certain that the Prophet would hear my prayer.

The beggar was boasting. The Prophet does not always grant such brazen requests, and heaven often forgets to help out the hungry crowd that religion brings in every year during the Hejaz. Pale, emaciated by want, thousands of poor wretches painfully drag themselves along the roads that lead to Mecca. They vainly hold out a supplicating hand, but fall at every step, victims of their foolhardy zeal and their unfortunate beliefs. They are consumed by fever, wasted by dysentery, and devoured by the Yemen plague. Imagine a country in which the air itself is almost always poisonous. You get a scratch, you don't take care of it, the air inflames it, and soon the limb with the wound will have to be amputated. We will never forget the sight that we witnessed a few days after we arrived in Jeddah. A poor Negro from Sennar with one of these horrible ulcerations was stretched out near the Medina gate and was fighting for his life.

How old could this man have been? Maybe thirty or thirty-five. His eyes were dull, his lips pale, his hair was frizzled, his cheeks hollowed, his face pained and deathly. His leg was an emerald green, the skin distended like an inflated balloon. The bone was entirely exposed between the foot and the knee. The flesh around the bone was being eaten by thousands of worms. Gangrene had made it fall off in shreds, emitting an intolerable odor to passers-by and to the victim himself. "Allah! Allah!" cried the common folk. "Turn these hideous afflictions away from us. Send them far away to fall in the lands of the infidels." Under any other circumstances we would have vigorously dismissed these fanatics because of what they wished for our country. But we felt a heart-rending sorrow, and we had no words of anger.

Just by chance at that moment two or three Europeans whom we knew passed nearby us. We hurried to rejoin them. After visiting the fine hospital north of town built under the direction of M. Chedufeau, we went to a café located near the port where we chatted for a long time with several of the trade merchants in Jeddah.

SUMMARY of Chapter X

Trade in Jeddah -- Significance of this trade -- Imports from India and from Indo-China; from the Persian Gulf; from the coasts of Africa and Arabia beyond the strait of Bab al Mandab, from Yemen; from Suez and from the interior of the Hejaz -- Table of merchandise shipped yearly from Jeddah to Suez -- How this trade is conducted -- Customs revenues from Jeddah; they show a decline in trade in the Hejaz; the reason for this decline.

CHAPTER X.

Jeddah is one of the largest ports in the Hejaz due to its favorable location as a supply point for Mecca. The reader can judge that for himself from the list of goods brought there from India and from the east coast of Africa. We note that we owe this table to the courtesy of M. Fresnel, and that the French consul has taken care to draft it himself. This assures that it has been done with utmost care and is completely reliable.

All of the amounts listed in it are in Austrian thalers embossed with the effigy of Maria Theresa. In Egypt the thaler is worth 5 fr. 25 c., on the coast of the Hejaz 6 fr. 50 c., and in the interior of that province, 7 fr.

[*Translator's note*: pages 326 - 334 list in extensive detail the individual commercial items imported into Jeddah from ports in Asia, Africa, and the Orient as well as yearly shipments from Jeddah to Suez. The value of each item in the list is given in Austrian thalers. The reader is referred to the original text for the contents of this list.]

All of this trade requires two or three hundred ships of all sizes. The largest of them come from India. They arrive in Jeddah in the middle of May and usually go back at the end of July. Thirty to forty days is generally enough time to sell the cargo. Most of the merchandise is purchased by wealthy traders who store it in warehouses until the time of the pilgrimage and then make a profit of 30 or 40 percent. Credit is never given. Sales are made in cash and in the simplest possible way. The Arabs don't know about packing boxes, piling up stacks of registers, and using paperwork that slows down business.

Most often they have just a single book in which they enter sales and purchases that have been made in foreign countries. When December comes around they square their accounts with their correspondents; in this way they assess their own worth once a year. How extraordinary! In this kind of annual inventory they never try to be strictly accurate. A rough estimate is good enough for them. If you ask them why they do it that way, they will reply solemnly: writing down and counting one's wealth is to make an ostentatious display of one's success, and God punishes the rich man's pride by striking him down in the midst of his wealth[1]. For the same reason a governor of Arabia never carries out a census of the population;

[1] It seems that the fear of God's judgment of David his servant has persisted in the minds of the people of the Orient, and that they recall the dreadful punishment that the Lord exacted as atonement for the census of Israel.

"Go tell them, David, this is what the Lord says: you are given a choice among three things, Choose the one that you would wish so that it may be done to you.

"And when Gad came to David, He completed his message, saying: either famine will descend upon your kingdom for seven years, or for three months you will flee before your enemies, and your enemies will pursue you; or yet further, the plague will break out among your people for three days. Therefore decide now, and see how I must answer you."

In our time almost three thousand years have gone by and an Arab chief is still afraid to count the number of soldiers that he commands on an expedition.

a Bedouin doesn't count the number of his sheep, nor a military commander that of his soldiers. In addition the Arabs never allow themselves to do business with banks. Bank drafts, money orders and bills of exchange are absolutely unknown to them; also, bankruptcies are extremely rare there. In contrast to what happens in Europe, when merchants of the Hejaz realize that one of their own is in trouble in his business, instead of being hard on him, insisting on their demands and pushing the debtor to his final limit, they take care to trust him and respect his credit. They delay and wait, and frequently with considerable patience they succeed in averting the bankruptcy with its disastrous consequences.

According to Burckhardt, income from the Jeddah customs rose to 40,000 thal. in 1814, in other words about 2 million francs. In 1839 according to information from M. Fresnel, and M. Fresnel is in a position to be well informed on these matters, the same income fell to 27,000 thal. or 1,350,000 fr., a difference of at least 650,000 francs. This difference, which has to be attributed mainly to a cooling of religious fervor among Muslims, points to quite a large decline in trade for the town. The merchants of Jeddah are unanimous on this point;

they all agree to acknowledge it. Even though the number of dealers has increased, the quantity of imports compared with the figure shown for 1814 has dropped by one third. And furthermore, let it be said, all of this trade is conducted without resulting in any great benefit for the inhabitants. How come? There are two reasons. The first is that the imported goods generally consist of luxury items that are finished products. The second reason is that the payments are always made in cash. And even further, don't forget that for a country to be able to make an advantageous start on the path of commercial trade, it must have resources of its own. But the Hejaz is a very poor country. The barrenness that devastates its plains only too well justifies the name *Arabia Deserta* that the ancients gave this vast province because of its misfortune.

SUMMARY of Chapter XI

Documents for constructing the map of Asir and the south of the Hejaz--Description of this country--The Arabian mountain range--*Seyls* or rivers on the eastern and western slopes-- Principal places in the Tihama--Principal places of the eastern slopes--Tribes of nomadic Arabs--Districts of the Arabian mountain range--The province of Asir--The mountain people of Asir--Causes for Mohammed-Ali's war against these mountain dwellers.

CHAPTER XI.

During our visit in Jeddah we heard for the first time about a vast province known as *Asir*. Even though it's not very far from the eastern shore of the Red Sea and is an important part of the Arabian peninsula, there is no mention of it in any geographical texts. Messrs. Chédufeau and Mari are virtually the only Europeans who have visited it since the Egyptian armies left. They also traveled in different routes across the desert stretching between the Najd and the Arabian mountain range. Everywhere they went they made observations and noted their routes, which they readily communicated to us. With the help of these documents, and also with information that we were able to obtain

from several sheikhs of the Asir that were held prisoner in Jeddah, we drew up the *Map of the Southern Hejaz*, which is included in our publication.

Today, with the Egyptian troops out of Arabia and the fanaticism of its inhabitants closing it off to Europeans, it will be a long time before the interior of the Hejaz will once again be open to the world of scholarship. So it will be useful for us to put together here all of the observations that we have collected about this unusual country. We venture to hope that they will not be lacking in interest.

Mountains.

The portion of the Arabian mountain range contained within in our map extends from northwest to southeast. It forms two watersheds: the western watershed, the Tihama, and the eastern watershed, the Hejaz, a vast, generally uncultivated plateau that stretches as far as the Najd. Along the Red Sea shore the steep and craggy mountainsides of this range present almost insurmountable obstacles. Nevertheless, at the source of the Chadat *seyl* the mountains are unexpectedly low and permit the passage of troops and of field artillery carriages. Except for this pass and that of Jebel-Kara,

which is accessible to beasts of burden, in these mountains there are no more than perilous trails or only steps laboriously cut into the rock. As a result communications between the Hejaz plateau and the Tihama are extremely infrequent.

How high is the Arabian mountain range? So far there are no accurate observations that answer this question. In any case, there's no doubt that its height is quite considerable. We've known people who have seen ice there in April and claimed that the summit of Ghrazuan, not far from Taif, is covered in snow at least once every five years.

Seyls or streams.

All of the *seyls* of the Tihama, nine on our map, have their sources in the Arabian mountain range. Except for the Hali *seyl,* which flows from southeast to northwest, the general direction of all of the others is from northeast to southwest. None of them get as far as the sea. They disappear into the sand and thus form underground watercourses that give rise to the springs found in the Tihama. It's probably one of these streams that feeds the renowned well of Mecca, the *Zemzem*,

which always maintains the same water level, regardless of the amount that the Muslim faithful that visit the holy city draw from it.

In the summer these *seyls* dry up. In the one at Hali there's hardly a trickle to be seen. But during the winter they swell considerably. Sometimes they even overflow and form large lakes, block the progress of caravans, carry off Bedouin huts, and force the population to seek refuge in the mountains.

The *seyls* that flow down the eastern slope are much larger than those of the Tihama. Some of them deserve mention, and we list them here:

1º The Turabah *seyl* that runs southwest to northeast along a course of more than 30 leagues.

2º The Therad *seyl* that goes down the Shumran mountains, proceeds to Renia, and empties a bit further on into the small Lake Warda.

3º The Ranyah *seyl* which disappears in the Miver plain after a course of 15 to 20 leagues.

4º The Bishah *seyl*, which is a confluence of two tributaries, the Theniya and the Shahran. The Bishah stream never forms a dry bed. It doesn't run dry either in summer or in winter. If the Arabs are to be believed,

after having crossed a lake in the interior called Salome, it is briefly swallowed up into the ground. It soon reappears at the surface only to disappear once again into the soil. It finally empties into the Persian Gulf, thus forming a major channel across Arabia through which flow the waters from the entire interior of this vast peninsula. This is a claim that doesn't seem to us to be very reliable. However, let's note that it appears to confirm the suppositions of the scholar M. Jomard, who first of all pointed out the importance of the Bishah *seyl,* whose direction matches that of the Aftan, and lastly, the absence of any known obstacles between the Asir mountains and the Persian gulf.

Except for the Therad, all of the *seyls* that we have just listed disappear in the sand or are swallowed up into the earth about thirty or forty leagues from the mountains where they originate. Like those of the Tihama they also have to form underground streams that feed the few valuable springs for the Arab nomads. All of the valleys watered by these *seyls* are very well cultivated. That of the Shahran, and even more so that of the Bishah, form delightful oases in the middle of the desert. Every step of the way the traveler comes across fields sown with wheat and *dourah*, well-maintained gardens, groves of fruit trees,

and large forests of date palms that provide cooling and shade.

Principal Points in the Tihama.

Jeddah, which we've already discussed, is the largest port in the Hejaz.

Mecca, is revered in the Muslim world as the Prophet's birthplace, and the seat of his struggles, his preaching, and of his countless miracles.

The port of *Qunfudhah* is not a major one. It can only take in small boats. It trades only with Jeddah, Moka, and the Kabyles of the interior. It trades mainly in grain, grapes, salt, butter, dates, and fabrics. Merchandise from Yemen and from India never goes there directly, and commodities coming from those countries cost much more than they do in Jeddah.

Saadia, on the *seyl* with the same name, is notable as the rendezvous for all Persian pilgrims, who are required to purify themselves there before entering Mecca. There is a well there built by wealthy Persians that provides water all year long.

Safra is located in the middle of a small wood five leagues northeast of the port of Lith.

It's a mineral spring to which the Arabs have attributed healthful properties since time immemorial. They say that it cures chronic diseases of the lower abdominal tract and of the skin. The spring, according to what we were told, seems to derive its heat from very deep layers within the earth. It deserves the attention of geologists and of physicians. It could possibly resolve a significant climatologic problem by shedding light on the ancient thermometric condition of the earth.

Principal Points in the Eastern Watershed.

Taif is the largest town in the eastern watershed. Its surroundings are well cultivated. It's a resort where rich Meccans go to enjoy the countryside during the summer. East of *Taif* are *Kalaik, Beyda,* and *Khamra* where there is water and abundant pasturage during the winter.

Turaba and *Khurma* are located in the valley of the Taraba *seyl*. *Turaba* is small fortified town where the Turks confined hostages that they occasionally took from the Bedouin in order to make sure of their loyalty. In the area around *Khurma* are several villages built of stone,

fields growing wheat and barley, groves of date palms, and many wells that never go dry. Water is preserved there as well, either in the stream bed or in a canal alongside it about 175 feet long, 15 feet wide, and 20 feet deep. In that location there's also an immense cave that can shelter a large caravan against the vagaries of the weather.

El Bouckay, located east of Turaba, derives its importance from a huge well 220 feet around and about 40 deep. In summer as well as in winter this well contains abundant water. It's situated at the foot of a small hill in a dry plain. It's the only place for a traveler to quench his thirst on his way from *Khurma* to *Rania*, which is near the lake of Warda.

In the valley of the Ranyah seyl stretches a forest of 16,000 date palms. It's interior is farmed and produces barley and wheat. It's surrounded by twelve fortified villages in order to protect it from plunder.

Lastly, farther south, lies the fortress of *Bushan el Kebir* in the valley of Bishah. After the one at *Réda* it's considered to be the strongest in the southern Hejaz. It's in the shape of a square 200 to 210 feet on a side. Imagine two parallel ramparts separated by a corridor 7 feet wide,

in which an interior passageway has been contrived by means of two elevated wooden boardwalks, one 8 feet and the other 16 feet above the ground. Inside is a fresh-water well and storehouses for containing all sorts of provisions. The outside wall is no less than 6 to 7 feet thick. It's penetrated with numerous holes for discharging small arms. Around its periphery rise eight crenellated towers used as lookouts and for firing during a campaign. However there are no moats or additional defenses to stop an enemy's advance; not a single gate in the wall that would permit the besieged to counter-attack. A rope attached to the top of the outer wall, pulled up as a precaution during time of war, is used as a ladder into the garrison. Despite its extremely defective construction, this fortress nevertheless suffices to protect communication between the Hejaz and Yemen and to defend the Bishah valley from pillaging by Bedouin and Arab nomads.

Nomadic Arab Tribes.

The Bedouin are very numerous and consist of powerful tribes. The major ones are:

1^0 The *Gahtan* tribe, led by the brothers

Omer and Mohammed ben Garmela. They have about 12,000 guns.

2^0 The *Mutter* tribe, armed with 8,000 guns.

3^0 The *Rokka* tribe, under the command of Shahola, with 2,000 guns.

4^0 The *Muaddé* tribe, led by Indi ebn Hammed, equipped with 2,000 guns.

5^0 The *Jurbé* tribe under the command of Merba ebn Massuef with 3,500 guns.

6^0 The *El Begum* tribe, now led by Jassar but commanded until a few years ago by the famous Bedouin *Ghalié*, who's name became immortal in Arabia through her heroic courage and her victories over the Turks.

7^0 The *Harass* tribe commanded by Saamam and Makbouït, armed with 2,500 guns.

8^0 The *Uttebas* tribe commanded by Edigan ebn Rabian, armed with 4,000 guns.

9^0 The *Beni Yam* tribe, consisting of orthodox Bedouin and Bedouin followers of Ali, with 2,000 guns.

10^0 Lastly, the *Ibn el Hareth* tribe.

The Gahtan and Mutter tribes are the most powerful, Their combined populations are said to amount to more than 80,000 souls. Even when they're peaceful, all of the others are afraid of them.

The Arabs in their colorful way say that their power rules the desert. The habits and customs of all of these tribes have been impeccably described by Burckhardt. We're pleased to report that they respect the tradition of hospitality held sacred since ancient times, as well as the patriarchal customs that the book of Genesis illustrates so elegantly in the life of Abraham.

Districts of the Arabian Mountain Range.

In the Arabian mountain range the soil is fertile and the climate is agreeable. It also is inhabited and cultivated by a large and stable population that should not be confused with the one in the desert.

Starting from the north are the districts of *Thackif, Beni Soufyan, Beni Fahm, Beni Saad,* and *Nasera* that provide abundant yields of barley, wheat, grapes, peaches, mulberry trees and pomegranates. Their populations have no trade with the coast nor with the Kabyles of their surroundings. They have depended on the Great Sherif of Mecca ever since the Egyptians abandoned the Hejaz.

The districts of *Beni Malek, Zahran,* and *Raghdan* produce grapes, barley,

and excellent almonds. The wheat of Beni Malek is of superior quality; its grains are longer and deeper in color than the European, and they yield flour with a pleasant taste and aroma. The viceroy of Egypt purchases 50 *ardeps* [*Translator's note:* an *ardep* is about 11/2 bushels.] of it every year for himself and for his household.

The district of *Ghamid,* one of the most fertile in the Hejaz, supplies abundant yields of barley, wheat, and excellent fruit. Its coffee, rated more highly by the Arabs than mocha, is acclaimed in all of Arabia. The beans, round and dark green, under pressure release an oily material that has a pleasant taste and aroma. Unfortunately the mountains in *Ghamid* only produce 100 to 150 quintals annually, and it's never available commercially.

The districts of *Shumran, Belgarn,* and *Beni-Amr* are the least fertile. The soil there is sandy and the inhabitants are poor, few in number, and miserable.

The district of *Beni-Sher* is large and rich. Gramineous plants and fruit grow there abundantly.

Province of Asir.

Asir is made up of several districts, six of which are located on the plateau of the Arabian mountain range,

namely *Belasmar, Belahmar, Rufeyda, Rabiah, Alckan,* and *Beni Mughayd*. East of this range are the *Beni Malek* and the rich countryside of *Khamis Mushayt.* In the foothills to the west is the large district *Rejal elma.* Located there is the citadel of *Réda* in the shape of a large rectangle 140 feet long by 46 wide. Its walls are 40 feet high. In front of it by the seashore are five crenellated towers about 38 feet high that defend its approaches. Situated in a narrow defile at the foot of the mountains, this fortress doesn't protect any route, guard any passage, or overlook any important position. It's used only as a treasury for the chief of the Asir and as moral support for soldiers who consider it a secure retreat in case of defeat.

The mountain dwellers of Asir are among the handsomest races that bear the mark of their Creator. Brave, warlike, jealous of their freedom, they display at the highest level a pride of origin and an independence of character not found in any other group. When one has lived for a long time among the poor peasants of the Nile, a race humiliated by misery and degraded by the experience of slavery, this is a novel sight, unusual,

and at once comforting to see Arabs of Asir entering the Turkish seats of government, sitting informally beside them and conversing with them as equals, not even suspecting that it could be any different. They never utter those obsequious expressions, the over-flattering and artful compliments that almost always suggest a meanness of spirit and servility in their speech. Their words and gestures are always refined, always serious, and retain a grace and basic dignity that appear to be the natural gifts of this privileged race.

These people have barbaric customs and penal laws worthy of the Draconian code. In Asir anyone convicted of betraying his people and going over to the enemy is condemned to a most ignominious death. His home is burned, his property confiscated, his wife and children stripped of all they possess, even the clothes that they're wearing. They're reduced to the lowest level of poverty. The culprit's family, now publicly excoriated, is forced into exile if they don't want to perish from hunger and grief.

To this day we are astounded by the severity of this law, which strikes both the criminal and the innocent indiscriminately.

But how could such legislation not be dreadful for a people whose institutions in peacetime still bear the mark of barbarism? How extraordinary! These people have exaggerated to the point of harshness the depilatory operation required by Islam. Their young people undergo it at the time they get married. The skin that covers the organ of generation is removed with a knife. Their hair is uprooted from the lower abdomen and the armpits. Woe to the victim of this painful procedure who would utter the slightest complaint! From that moment on he would become the object of public contempt.

If a people wish it, if they have been able to preserve similar customs throughout the development of Muslim civilization, wouldn't they then defend their national identity with heroic determination? And what force would be able to put them down? Under the empire of the caliphs, when all had succumbed to the Muslim armies who had conquered Africa, a large part of Asia, and made Europe tremble, the mountain dwellers of Asir remained idolaters and resisted the destructive tide. Only at the end of the last century did the Muslim religion penetrate their mountains, and then only in the truly contentious form of Wahabism.

Mohammed Ali, the implacable enemy of the Wahabi, seized on the pretext of religion to wage a relentless war against them. However, it must be said that other reasons influenced the viceroy's plan. These reasons, very poorly anticipated in Europe but more readily understood in the Hejaz closer to the theater of the war, were entirely political ones. While the viceroy appeared to pursue Wahabism among the crags of Asir, his real goal was to find a way to subjugate the peoples of southern Arabia as he had done in the north and central regions. He would make the Imam of Sana a tributary and complete the conquest of Arabia by capturing the ancient capital of Yemen. In the end he counted on that to pay for the enormous sacrifices that the war in the Hejaz had cost him. Thus enlarged by the entire Arabian peninsula, his domain formed the most widespread empire in the world. The viceroy saw his flag flying at the same time over the Mediterranean, on the Red Sea, on the Persian Gulf, and over the Indian Ocean. What a dream! Regrettably, Asir was always a troublesome obstacle in the way of this magnificent ambition. Situated between the Hejaz and Yemen, these mountain dwellers with an army of 30,000 men, sworn enemies of the Turks, were problematic neighbors. From the first moment following their signal to depart,

couldn't the Egyptian troops have divided their forces, turning one part against the *Haram* to plunder Mecca and to block the route from the Hejaz to Yemen and bringing the other part to the aid of the Imam of Sana to help him defend his domain? That's why Mohammed Ali had to continually fight an unremitting war. Over twenty years he led eleven different expeditions against them, eleven expeditions without success. He got ready for a final one, without a doubt the most dreadful of all, when suddenly, threatened by the alliance of Russia, Austria, and England he saw himself forced to evacuate Arabia and to re-deploy his troops along the banks of the Nile in order to protect his own country.

On October 19 we were awakened in Jeddah by bursts of artillery. But this time there was nothing untoward about it. The sound of the cannon announced that Mohammed Ali had just concluded peace with the chief of Asir. On that very same day the gates of the prisons were opened. The fighters of Asir who had been taken prisoner by the Egyptians finally shook off their chains. As we departed from Jeddah, we were consoled by the thought that these brave mountain people could see their native country once again and breathe the air of freedom.

SUMMARY of Chapter XII

Departure from Jeddah.--Qunfudhah.--Arrival at Massawa.--Description of the island; its climate; customs of the inhabitants.--Arkiko.-- Our arrangements with the Nayb. -- The Gorge of Schilleké. -- Ouéah. -- Valley of Haddas. -- Elevation at the foot of the Tarenta. -- About the chohos. -- Ascent of the Tarenta; its height above sea level. -- Arrival at Dixah.

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CHAPTER XII.

We left Jeddah on October 21. Instead of heading directly to Massawa, the destination of our ocean voyage, the captain of our ship preferred to follow the Arabian coast, and on the 24th he brought us to the port of Qunfudhah at six in the evening. Making landfall wasn't so easy. We first had to wait until the next morning. At that point, the shallow water kept boats five or six hundred feet from the shore. We had to cover the first half of that distance in a dinghy and the second half hardly with dry feet but with water half way up our legs. What added to our discomfort in going this way was that we had to appear before the governor.

So here we were, our shoes in one hand, trousers in the other, all ready to get dressed when we hit the beach. M. Bell was with us, even more embarrassed than before. If we had to hold onto our clothing, he had to keep both his clothing and his wits about him.

This was the time when England had just broken relations with Egypt. The governor had the news of the declaration of hostilities. The town expected to be attacked by English frigates at any moment. The inhabitants were fearful and angry. The emotion in the port was palpable, and an Englishman, even though a most peaceful tourist, would come to grief among these aroused townspeople. Had M. Bell been recognized, one of the governor's soldiers undoubtedly would have killed him, and there's hardly a chance that the governor would have interceded on his behalf. Fortunately our companion was able to get by as though he were one of us. It was easy enough for him to do because he spoke French as well as we did.

We found the governor on his divan. His troop commanders were gathered around him, and he was engaged with them in deciding on the necessary measures to defend the town. He had no similar inclination to calm his mood.

Consequently his hatred for the English spilled over in a flood of abuse. It was most diverting to watch M. Bell's expression in the face of this enraged individual, who bellowed at the mere mention of the name of Great Britain and thirsted for English blood. Nevertheless it had been cruel to prolong his predicament. It also must be said that the brutal arrogance of this barbarian, the barefaced insolence of his speech and gestures, revolted us as Europeans. We soon delivered our noble companion from the torment of acquiescence, at least by silence, to the curses that the governor vomited out against the Three Kingdoms. Rising from his divan, his chest puffed out and his face brightened up. We were discreet enough not to take any notice, as we had had the good sense not to mind his confusion, and we went off to see the town.

Qunfudhah is situated at 19° 7' north latitude. It's a miserable place with a dreary look, so we didn't stay within it very long. We soon got back to our ship by whatever route. We left the next day, happy to put some distance between us and the governor's thousand arnauts [*Translator's note:* possibly the name for people of Albanian origin serving in the Turkish army], who are the most undisciplined and fanatic soldiers in the world. We headed south, always within view of the Arabian coast.

But after two days our captain finally took a chance on heading for the open sea, and on October 31 we cast anchor in the port of Massawa.

Massawa was a town known to the ancients. It was called *Sebastricum os*, and for as long as it remained part of the Ethiopian empire, it continued to be very prosperous. At that time it served as a warehouse for goods coming from India and those being sent there from Abyssinia. Ivory was sold there, powdered gold, musk, cowhides, pearls, tortoise shells, and slaves more handsome than any seen in all the rest of Africa. But when the Turks took charge, and trade with India that up to then had flowed through the Red Sea but now took a new route around the Cape of Good Hope, Massawa, like other trading posts established on the Arabian Gulf, soon forfeited its initial wealth. Nevertheless, the Turks did not abandon the position from which they always had hoped to penetrate Abyssinia in order to convert the inhabitants to Islam. With this objective in mind they established a pasha there with a strong garrison. But their plans fell through, and they were left with the conquest of a barren territory lying ahead of Massawa from the sea to the mountains.

Finally worn out by a fruitless war, they retreated, leaving the chief of a shepherd tribe, who had helped them in their endeavors against the Christians, in charge of the island. The chief was given the title of *Nayb* on the condition that he pay tribute to the overlord, thus acknowledging that he had become his vassal.

As long as Turkish ships traveled on the Red Sea the Nayb adhered to his commitments. But the moment that their flag no longer appeared and the Turks had confined themselves inside Arabia, this decent chief of Massawa thought only of ridding himself of the tribute and set about looking for excuses. The pasha of Jeddah had to send one of his lieutenants to oversee him and collect the proper amounts. Unfortunately at that point there ensued a power struggle as well as endless disputes that disrupted the tranquility of the island. Also, as soon as Mohammed Ali seized the Hejaz and its dependencies, he hastened to change the setup. The viceroy established a Turkish governor in Massawa with the rank of *caïmakan* (lieutenant colonel). The Nayb was expelled and took up residence in *Arkiko*. At the moment he is no longer in charge anywhere except on the continent.

So we were going to have to deal with these two chiefs. This is where the real difficulties of our journey began.

No longer were there any French representatives to support us. From now on, isolated, we were at everyone's mercy; we could rely only on ourselves. It's easy to imagine that we felt an unavoidable sense of anxiety on entering the port of Massawa. The stories of travelers who had preceded us on these seas did not inspire confidence. Everyone had complained about the crudeness of the Massawanis, the pretensions of the governor, and the insatiable greed of the Nayb. But since the viceroy had known how to compel his agents, even the most remote ones, to be respectful and obedient, we wanted to test on the spot how effective his protection was. Before we went on shore, we sent Saïd our interpreter ahead to the governor to announce our arrival. At the same time Saïd was to give him a letter from M. Fresnel, our worthy consul in Jeddah, as well a decree by Mohammed Ali, that ordered him to treat us with respect.

The letter and the decree had their desired effect. Aydin Aga, that was the governor's name, in spite of being consumed by illness applied himself to carrying out the order of his ruler. The customs cleared our baggage without even inspecting it. They prepared the home of Hussein Effendi, the governor's secretary, for us. As soon as it was ready,

a soldier came for us to take us there. There is nothing that lifts the heart like success. This unexpected hospitality filled us with joy. Dinner is served! It was now suppertime. Regrettably the day was drawing to a close and no longer allowed for a banquet worthy of our appetite. Well, so what? We had some cheese, dried grapes, biscuits that were rock-hard, leftover from our seagoing supplies; our good humor managed to transform the biscuits into delicious cake. It didn't even occur to us to wish for a meal less austere than this, and the first evening that we spent in Massawa remains engraved in our memories as one of the happiest of our journey.

It was late, as we just said. We put off our visit to the governor until the next day. We found him stretched out on his divan in front of an embrasured window with a screen partly opened toward the seaside, letting in a fresh morning breeze. Aydin Aga wanted to get up to greet us, but he lacked the strength. His was a constitutional breakdown; the man was barely alive, only his mind could sustain his worn-out body. Seeing his gaunt expression, his dull eyes, his hollow cheeks, we could not avoid an awareness of his approaching death. The thought rent our hearts with pity and sadness.

But the governor foresaw his end with admirable resignation, and quietly and without a murmur, he welcomed us with a smile. We first of all expressed our regret that we weren't able to bring him relief for his afflictions. We then turned the conversation to the topic of the Nayb, and our fear that we might not be able to come to terms with him. The Nayb had made a habit of ransoming foreigners, regardless of who they were, especially Europeans. We found this to be an odious procedure and had in mind to get ourselves clear of it. Aydin Aga listened to our arguments. He promised to let us know as soon as the Nayb came to see him, and assured us that he would use his influence to secure free passage for us. But despite his good intentions and our justifiable determination, he didn't seem completely convinced that we would escape the clutches of the little king of Arkiko without being ransomed.

Leaving the governor's home, we visited Massawa. This island, situated near the African coast at 15°36' north latitude and about 37°15' east longitude, is only 1,000 meters long east to west, and only 400 wide south to north. It consists entirely of a coral reef that at one time had been thrust up to the water's surface

by the upheaval seen all along the shoreline of the Arabian gulf. Its highest point is barely 4 meters above average sea level, There's no spring, not a tree, not even a blade of grass; just bare rock and dry stones everywhere. To get drinking water, cisterns must be dug and the rainwater very carefully collected. Besides, the rain falls at very infrequent intervals from October until March. A most meager resource since it's barely enough for the needs of the governor and his associates. Drinking water for the people comes from brackish springs on the continent, from Arkiko and from Moukoullou. Half the island belongs to the dead, the other half to the living. The graves are on the east side, the town is on the west. The cisterns are located among the graves.

What a sad, miserable sight is Massawa! Except for a small number of houses built from stone, all the rest are mere huts made of branches and covered only either with matting or with straw. The interior furnishing matches the poverty of the outside. It consists virtually of just a *sarir*, which substitutes for a divan, bed, and chairs. A *sarir* is a rectangle of wood supported horizontally by four feet. From one side to the other on the rectangle

ropes of straw or cowhide thongs are stretched cross-wise to make a kind of matting to sit or to lie down on. The well-to-do cover the *sarir* with a Persian rug or just with tanned leather; this is virtually the only luxury distinguishing wealthy families from the poorer classes.

Well, let's not be unfair about the huts of the Massawanis. These structures that seem at first to be so wretched nevertheless have an advantage especially appreciated in this country, namely to allow the passage of air through their networks of branches. Thus a constant draft of air prevails indoors, all the more necessary because Massawa is one of the hottest places on earth. In November a centigrade thermometer in the shade read 31 degrees at nine o'clock, 34 at noon, 33 at three o'clock, and 30 at nine in the evening. The atmosphere in summer is like breathing fire. In the month of July in 1842 it got up to 53 degrees! People from the north could not get used to this extreme temperature. During the day the sweat streaming from our pores depleted all of our energy, which disappeared along with it. We vainly hoped that nighttime would cool us off. But night fell without bringing the slightest refreshment; even the shadows were hot. To cap the misfortune,

as long as the summer season lasts the island is a most unhealthy place. The section of shoreline with exposed low water breeds pestilential vapors. The air becomes contaminated, and severe diseases, dysentery, fever, the plague of Yemen, finally smallpox, wreak devastating havoc on the island. Nevertheless, and who would believe it, on this rock seemingly under nature's curse there are some utterly extraordinary examples of longevity. When we were in Massawa, there numbered about fifteen elderly men over a hundred years old; one who had just died had lived, to hear the locals tell of it, for a century and a half. Mortality is harshest among the young. Once a person has reached thirty, he has passed the critical stage and can hope for a very long life.

Total desolation, scorching climate, frequent terrible diseases, all combine to make Massawa the most inhospitable place on earth. Only its port offers some advantages that are totally lacking along the coastline of Africa, at least on these seas. Formed by the island on its south and the gulf coast to the north, it's one of the most secure ports on the Red Sea. It can accommodate about sixty small ships of 50 to 180 tons that the Arabs use.

Its entrance, about 400 meters wide, is at the northwest of the island. The town of Massawa owes its existence to the security of its port and to its location at the entrance of the only route leading from the Red Sea into northern Abyssinia. It has 4,000 inhabitants, all of whom follow the law of the Prophet. The craftsmen among them, most of whom are employed in shipbuilding, all come from abroad. We looked at the different professions: we found a gunsmith on the island, a goldsmith, a shoemaker, a tailor, and lastly, a couple of barbers. That the two barbers practice medicine goes without saying. In their hands alone lies the care required to combat the excessive hardship of Massawa's deadly climate. That's why there are so many tombstones there.

The Massawanis have little taste for work and hardly do anything except trade with the Abyssinians. They spend almost the whole day in the cafés, in the market, or on the quai along the shore. Their wives, likewise not very industrious, stay seated on their *sarir* or casually attend to simple household matters helped by negro slaves. Once in a while, as a distraction from their monotonous idleness, they entertain themselves by weaving palm leaves, sometimes making mats and sometimes baskets

which, after being exposed to smoke for a while, are used for keeping milk. And also, always with the same leaves, they make fans that are very widely used in this country, because the heat won't allow one to stop fanning for a moment.

Dress is always governed by the climate. In Massawa clothing is simple and light. Women's clothes consist of a section of cotton cloth that they attach to their belt, and another one that they put over their head when they wish to go out, and which covers their face. Lastly, a *mélayé*, a large cloak with blue and white stripes that covers the entire body. Men wear a loincloth tied around the waist and a long shirt with wide sleeves. The wealthy add a silk robe or still further a caftan made of brightly colored cloth: yellow, red, or blue. They wear sandals, and a tastefully fashioned cap with a little white muslin coiled around it makes up their headdress. The poor satisfy themselves most often with just a single shirt; it's even not uncommon to encounter some of them going almost naked.

As to the general character of the population, suffice it to say that the Massawani are infected with all of the vices.

They are selfish, fanatic, rude, thieving, and shamelessly ungrateful. A resident of the island was shot with a handgun. M. Ruppel dressed the wound, cared for him, and healed him. Here's a person saved from an incident that might have been fatal. A friend of his came and congratulated him. M. Ruppel heard him respond gravely: "God is great, and his purposes are wondrous. Did he not send this dog of a Christian expressly to heal me!" Yes indeed, God is great and he is righteous, and that is why he is making you pay dearly, oh Massawanis, for your wickedness. It's your impertinence, your bigotry, that are ruining you. Were you to treat the Christian merchant of Abyssinia less rudely, you would interact with the Abyssinians more often. As a result of friendly relations your trade, which is languishing, would develop, and your personal wealth would increase to the same degree as the public prosperity. So your misfortune is simply your own punishment. Correct your ways, and your poverty will be relieved. But alas! If the Massawani are to reform one day, everything leads one to believe that that day is still far off.

Today Massawa's income amounts to about 90,000 fr. Customs brings in 85,000. The rest consists of some duties paid by nearby islands,

plus a tax imposed on the town-crier as well as on the market foreman. But expenses are pretty much equal to the revenues. The governor's pay and that of the Turkish soldiers and employees consumes about 27,000 fr. The Nayb gets 63,000, a considerable amount if he didn't have to maintain his army. So the Nayb keeps only one fifteenth of that for himself and distributes almost the entire amount among the soldiers charged with seeing to the security of his territory and protecting the caravans that cross it.

Gold coins of Venice and Austrian thalers with the image of Maria Theresa are the only coins that are accepted in Massawa. Small beads of glass are used for minor purchases. There they are called *bourchokos* and are known in European trade as coarse glassware of Holland. Three *bourchokos* are worth one *kebir,* forty *kebirs* one *harf,* thirty-two *harfs* one thaler or 5 fr. 25c. Thus a thaler is worth 3,840 *bourchokos.* When you exchange a silver coin for those little glass beads, a Massawani won't fail to hold onto some of them for his own profit. If you try to complain, the calculation will have to begin again: 3,840 bourchokos counted one by one. The Massawani will make a mistake and then purposely start all over again so as to mix everything up, and he will be sure to exhaust your patience!

Make up your mind ahead of time and resign yourself to being cheated. You'll still come out ahead.

WEIGHTS USED IN MASSAWA ARE :

The *rotoli*, equivalent in kilograms to	0 445
The *mimes*	1 000
The *farasselli*	8 900
The *oghia* for weighing ivory.	19 130
The *oghia* for gold and musk.	0 064

VOLUME MEASUREMENTS ARE :

The *hemlé*, equivalent in hectoliters to. . . .	.2,088
The *ardep* is a quarter of the *hemlé*. It's divided into 52 *kelés,* and the *kelé* into 2 *roubs*.	
The *gobeh* is a volume measurement used for butter and honey. Its equivalent is usually based on 8 rotolis. . . .	$3^{k}560$

LENGTH MEASUREMENTS ARE :

The *pic endasi*, for cloth and silks.	$0_{m}72$
The *pic beledii*, for all other fabrics.	0 62
The *madah* equal to 4 pics endasi.	2 48

Since we hadn't lost sight of the purpose of our journey, we connected with several Abyssinians while we were staying in Massawa: Agaouderes, agent for the king of Tigré; Zarail, son of the Baharnagass of Dixah; and lastly, wealthy traders from Gondar who had come up to the seacoast with a large caravan. These Abyssinians soon had to go back to their country. They could prove useful to us there. At first we tried to gain their friendship.

This small gesture did not require a major diplomatic effort. Massawa, a Muslim town, profoundly disdains the Abyssinians, and the lowest Massawani beggar believes he has the right to subject a Christian from the continent to the most uncivil outrages. It would be easy to ingratiate ourselves in a very natural way to minds that are anxious and offended! We who had dealt with the governor as equals, we publicly expressed our esteem for our co-religionists, we sought their company, which additionally was extremely pleasant. They were receptive to our offers, we daren't say to our good manners, and having soon joined together with us in mutual understanding, they offered to introduce us to Abyssinia themselves. That's what we had most wanted. But we had to wait until they were ready to go, and there was no longer anything more that we could do about it: death had just overtaken our benefactor. The inhabitants of Massawa had always regarded us unfavorably. They knew we were Christians, they had seen us surveying a map of the island, and they had concluded that we had come to find a way to take over their country. A quarrel started up about this, and we needed the intervention of Aydin-Aga to protect us from ill treatment. But Aydin-Aga was no more.

Who could protect us from now on, and who wasn't going to make a move against us? We thought it wise to get away as quickly as possible. Without a word about our departure, we rented a boat, and in an hour we were together with all of our luggage at the lower end of the gulf of Massawa, at Arkiko.

The Nayb, informed of our arrival, had been brought there ahead of us. We went to greet him on the seashore, and he had us seated on the sand next to him to wait for all of our belongings to be unloaded. Hassan, that was his name, was a tall man, thin and slender like almost all of the Arabs. He could have been forty-five years old. His beard, which had begun to turn gray, strongly accentuated the bronzed color of his face. But his expression, though rather severe, nevertheless inspired confidence more than fear. His dress resembled that of the wealthy traders of Massawa, but he also had a handsome hand dagger in a glittering silver scabbard that hung on his belt. His feet were sheathed in elegantly fashioned red leather sandals, and the top of his head was covered by a small multi-colored silken skull-cap without a turban.

As soon as our baggage had been collected, the Nayb brought us into one of the houses attached to the one that he himself lived in with his family.

This house, rectangular in shape, was constructed of bamboo canes set into the ground and firmly tied together with strips of cowhide. There was only a single room on the ground floor, furnished with four *sarirs*. At the outset it didn't give us a very favorable picture of our host's wealth, and it didn't seem consistent with his extravagant regal ways. But when we had gone through Arkiko and seen its wretched hovels, Hassan seemed to us to be a grand prince and our lodging underwent a similar transformation. It suddenly increased in size and splendor, so much so that we ended by believing that we were in a veritable palace.

Everything went well up to that point. But the Nayb, who had been left unsupervised after the death of the governor, now had us under his thumb and could have taken advantage of the situation to ransom us at his leisure. He set about exploring his options. We were his guests. In exchange for his hospitality, we presented him with a musket with a fixed bayonet. Adding that we wanted to depart without delay, we requested that he get us the camels we needed to carry our baggage. He promised to do so right away; but the musket, though it was to his liking, didn't seem to measure up to his expectations.

He had hoped that we would be much more generous than that, and he left obviously unsatisfied. Hassan, let's give him credit, possessed neither the nastiness nor the brutal violence of his forebears that Bruce and Salt once had feared. But at minimum he did inherit their avarice and greed. Independent like them, he was not to be seen as less of a despot nor less avaricious than they were. But fortunately for us, the times had changed. The Nayb acknowledged the power of Mohammed Ali, and fearful of incurring his wrath he didn't dare make the high-handed demands that his fathers had done. Had he known that at the moment Egyptian troops were evacuating the Hejaz and retreating to Egypt, that movement, though far away, might have freed him from some of his restraints. So we took care not to tell him the news. We told him only that the viceroy had made peace in Asir, because Egypt's power, thus established on the Red Sea, was helpful in reminding him to be respectful and obedient. But fear of Mohammed Ali was not enough to stifle his covetousness altogether. He continued to pursue his plans; where use of force may have appeared risky for him, he considered resorting to deception.

On the following morning a clamor of voices awakened us. We listened and heard deafening cries.

We hurriedly got up to find out what was causing this unusual racket, and we saw the Nayb holding forth in the midst of a crowd of Chohos. They certainly were Chohos: huge head of hair, dressed in shreds, loud coarse voice, small, round shields, spears and straight sabers like those of our former knights. There was no mistaking them. Hassan spotted us in turn and began gesticulating and sounding off louder than ever. Eventually he came over to us and explained the purpose of this tumultuous gathering. "The Chohos are furious at me, he told us, because I'm willing to let you go without exacting the tribute from you that all Europeans who enter Abyssinia have paid up until now. According to our custom, a large part of this tribute must be shared with them; they demand a hundred thalers for the right to cross their territory." While telling us this, he closely watched the expressions on our faces to see what impression his words were having on us. He must have been surprised, because our faces revealed not the slightest emotion. We had guessed the trick upon which he based his last hope, and we felt much more reassured when we saw him behave this way instead of daring to attempt any overt action against us. So we declared that either we would go ahead without paying,

or we would stay with him and write to the viceroy informing him of the obstacles that held us up in Arkiko. We made only one concession. Ordinary caravans take along just one guide. To be more generous, we said that we would take one for each one of us. This would be a further increase of four thalers for the Chohos, not counting hiring the camels that we needed to carry our baggage. Now, from Arkiko to the foot of the Tarenta, each camel draws a payment of three thalers. All their yelling, abuse and threats made no difference. We stood firm, and in the end they accepted our conditions.

It was November 10th. Although it was late in the day, we didn't want to wait until the next day to get going. Furthermore the Nayb could put some new obstacle in our way, and we were suspicious of him from that point on. In vain they tried to tell us that night would soon overtake us, and we would have to sleep under the sky in the open fields, prey to the fierce animals that overrun the countryside. Fierce animals instead of other fierce animals, we had made our choice and we left at once. Nevertheless, we didn't get very far. The sun soon disappeared below the horizon, and we had to stop near Adde Habib, a hamlet located only two leagues south of Arkiko.

We had hardly settled down, when whom did we see running toward us? It was our friend Zarail - Zarail thrice welcome! This kind young man, worried knowing that we were alone in the hands of the Chohos, decided to leave Massawah to accompany us as far as his father's home. He reported the good news that the Abyssinian caravan was soon about to depart and that it would probably meet up with us at Dixah.

Thus accompanied, we left a little before six the following morning. We proceeded once again across the same plain as yesterday. Only its name had changed. Here it's called Zabararaguay, while between Arkiko and Adde Habib it was called Catra. It's a low plain, sandy and barren. Only a few stunted mimosas were visible, wasted by dust and destroyed by the sun. After two hours on the move, constantly heading south, we reached the first mountain chain. An easy climb through a cool gorge called Chilleké brought us up to a fertile plateau dominated before us by a mountain range higher and more compact than the one we had just crossed. Our route was to cross the plateau heading southwest. But since we were short of water, our guides had us deviate somewhat from our route,

to take us southward to Ouéah where the Oligadé flows, which is said to empty into the Red Sea at Zoulla, the ancient Adulis. At eleven o'clock we arrived at the bank of the Oligadé. What a dreadful mistake! The stream bed was dry, and of the original torrent all that was left was a pool of stagnant water. But after all, the shade from an acacia wood hovered above our heads and sheltered us from the blazing sun. Nothing further was needed for this place to seem like a garden of delights. Trees and water - could one want anything more after a long and difficult trek under a tropical sky? We had definitely decided to spend the rest of the day at this stop beneath this lovely tent of foliage. But our guides found the place less charming. They feared the approach of lions coming to quench their thirst in the ravine during the night. We subsequently realized that our guides weren't wrong: it's not unusual that an occasional traveler gets preyed upon there. All the same, fatigue came first. Had we been able to find the simplest resting place, we'd have set aside all caution in our wish to see the king of beasts entirely at liberty. But the lack of shelter made the risk too great, and agreeing with our guides, we had to move on.

According to our barometric observations Ouéah is 190 meters above sea level.

At noon the thermometer registered 33 degrees centigrade in the shade.

After an hour following the dry bed of the Oligadé toward the west, we got to Hédali, a deserted hamlet located at the western end of the plateau and at the foot of the mountains. At that point, broken by weariness, we hastily ate a simple meal, and to hell with the lion! Without boasting any more, without even having given it a thought, without having any protection, each of us was overcome by sleep. By the time the sun came up no one had stayed awake, and the night passed without incident.

Very early on the 12th we resumed our journey completely recovered from the fatigue of the previous day. High mountains rose up in front of us and appeared to block our route. We already had been seeking, not without concern, a sign of some trail, when between Mount Adodah and Mount Oligadé we spotted a narrow defile that offered an easy and secure passage. At least it was still early! Our hearts were lifted. This was the valley of Haddas, which along a barely noticeable climb, led to the foot of the Tarenta, the final step on the way to the Abyssinian plateau.

This valley is no more than twelve leagues long as the crow flies. However, the many turns in the road and the debris of fallen rocks littering the ground here and there made it long and sometimes difficult to cross. In any case, it was the most direct and most scenic route leading from the Red Sea into northern Abyssinia. Unfortunately it's not passable the entire year. In summer water is very scarce. During the rainy season, by contrast, it becomes the bed of a headlong torrent that gets larger every time a storm breaks, and it's then in flood. But before or after the rains, at the time we actually went through, what a stunning contrast this was to the country we had left behind us! No longer the monotonous scenery, those low-lying barren beaches tiresome to the eyes, which we had seen from the moment we left Egypt. Right from the very start the valley that spread before our astonished eyes had a wild appearance, full of changes and variety. The mountains surrounding us had a fearful aspect. They rose straight up, and some of the rocks on them, worn by weather, threatened to fall and crush us as they came down. But the valley floor offered a very different scene: it could be called a most delightful garden. A clear stream ran nearby.

The air was perfumed with the scent of plants and flowers that we had trod underfoot. Luxuriant vegetation spread a canopy of greenery over us, shading our path. This first part of the valley of Haddas is called Hammamo, a delightful small vale. We crossed through it effortlessly, almost without realizing it; our thoughts were lost in so much of the lovely scenery. Partridges of extraordinary size crossed in front of us, and gazelles and hares that weren't frightened by our approach. Lacking pity for these gracious creatures, so gentle and confident, we must confess that with merciless glee we envisioned our table, frugal for so long, suddenly becoming sumptuous and plentiful. Even the noise of our gunshots lifted our spirits. We fired them off defiantly to a thousand echos from the valley and had a good time terrifying the myriads of monkeys who fled, desperately screeching.

After Hammamo the scenery changes. The stream disappeared, and suddenly we were in a dreadfully barren place. The road was blocked with stones; everything was silent and depressing. In spite of ourselves, joy gave way to gloom and happiness to tedium. But as the valley made a turn,

once again we were in delightful spot. That's how we proceded through this dark vale, sometimes passing through charming countryside and sometimes through wild, rugged, arid and desolate places.

Nevertheless, as we moved further along, the valley took on a more grandiose kind of beauty. The views of the mountains became more austere and more majestic. This thick double wall encompassing us seemed from time to time to contract and close up our passage. We could see the sky only when we looked straight overhead. But was there any need to look anywhere except right around us? Here we were in Tobbo - greenery and flowers everywhere. It was an enchanted garden, a paradise of caper bushes, of tamarind trees, of sycamores, between the gigantic mountains. Dark clouds were gathered on the mountain peaks; at their foot gazelles leaped, squirrels jumped. Bevies of birds of all colors flew from the midst of the foliage like winged flowers. Enchanted by the beauty of the place, we rested with delight in its magical shade and spent the night there.

The next day, the 14th, we arrived at the foot of the Tarenta. Camped there under a huge sycamore, we immediately made our barometric measurements.

At that point we were 1,425^{m} above the Red Sea. The centigrade thermometer indicated 26^{o}80 at noon, about 7 degrees less than at Arkiko.

As we had agreed with the Nayb, we sent the camels back. These animals, so useful and so valuable on the sandy plains, were not cut out for mountainous country. We now had to transport our baggage as far as Dixah with the help of the Chohos.

The Chohos live on the plateaus dominating the valley of Haddas, which we had just crossed through. Their country is called *Samhar*, and this name is sometimes used for the valley as well. One of their tribes, the largest and the most powerful one, are the Hassaortas. Some of the Hassaortas occasionally go down into the valley to pasture their flocks. They live in caves dug into the mountainsides and in huts made of branches. Because of the risk of encountering these savage shepherds, it's impossible to traverse these areas without the protection of the Nayb, who is their lord and master. They are fierce robbers and will inevitably strip you of your possessions, if you are not accompanied by members of their tribe, who answer to you with their lives.

The Hassaortas tribe, like all the other Chohos tribes, own enormous herds, and subsist on hardly anything but dairy products. They don't farm, or barely cultivate their fields. Grain that they need they buy from the inhabitants of the Tigré, who harvest it beyond their requirements. Relations between Hassaortas and the Abyssinians, whom they despise, are limited to that. They have more frequent contacts with Massawa, where the inhabitants are Muslims like themselves. They supply that island with butter, sheep, goats, and milk. In return Massawa provides them with textiles, tobacco, and a host of other goods.

Forewarned by one of our guides, about a dozen Hassaortas showed up the following morning before daybreak, bringing their oxen to replace the camels. This is the only means of transport customarily used to ascend the Tarenta. In the absence of any other, we accepted it. But right after the preliminary discussion, we recognized the insolent and avaricious Choho. If these thieves were to be believed, no less than twelve oxen were required, even though five could have been enough. Thanks to Zarail's intervention, we agreed that we would take seven, so as to more or less split the difference. Then, after interminable disputes and we had agreed on the number, the lazy and quarrelsome Chohos examined our packs again.

They found them too heavy and cumbersome. So we had to begin all over again and to repack them in their presence. If we hadn't yet been robbed, we thanked God for that miracle. But hardly had we finished repacking a dreadful confusion ensued. Each one of these cowardly rascals fell upon the pack that seemed to him to be the lightest and took off, actually making off with our luggage. Abuses, threats, nothing was left except to come to blows. As compensation, we had hoped to see these savages impose upon themselves the punishment that they so richly deserved, but that satisfaction was not forthcoming. Zarail proposed that they draw lots. They submitted to this judgment by fate, and immediately forgot the insults they had exchanged.

We departed at 7 o'clock. The Tarenta was covered with vegetation. Right at the outset we were shown a tree that we had never seen anywhere else, a tree that's actually not found anywhere except in Abyssinia. It's the *qolqoual,* which looks like a giant candelabrum. Its branches never bear leaves. They just put out a cluster of flowers at their tips that seasonally change color from bright yellow to crimson. Above the qolqouals we saw wild olive trees and large trees called *ouarras* by the Abyssinians.

Their wood is hard and suitable for building. All of these trees take root in clefts in the rocks, since there is little or no soil for growing. The rocks are exposed almost everywhere, so it's easy to study the mountain's geological makeup. Starting at the bottom one finds red or greenish-pink syenite, gneiss, which often is garnet-bearing and crossed through with veins of milk-white quartz, and protogine with veins and spurts of diorite. Lastly, the protogine reappears and covers all of the other rocks.

It took us three hours to cross the Tarenta. The trail was dreadful, often cluttered with stones that rolled underneath our feet and partly blocked by enormous rocks that had to be scaled by clinging tightly with our hands and feet. At the summit we stopped at a place called *Wadi Saasseh,* exhausted by fatigue, What a magnificent spectacle unfolded before our eyes! We commanded a view of all the mountain chains that we had previously crossed from the seashore. They crowded against one another, cutting across each another beneath us. They looked so small to us that we compared them to waves on the sea. Our gaze extended from the Abyssinian coast to the mountains of Tigré in the distance, whose stately peaks blended with the azure sky.

These were the mountains toward which we chose to turn. Abyssinia, this vast country that we had just come to visit from so far away, this kingdom to which we had been heading for so long, this barely known region that we intended to explore so that we could say something about it to knowledgeable Europeans, Abyssinia lay there before us. We saw it, we felt it; it was a moment of happiness and of fresh hope for us.

We still didn't know the altitude of the Tarenta. We immediately made our measurements. The barometer told us that we were 2,543 meters above sea level. The altitude of the foot of the mountain was 1,425 meters, so in three hours we had climbed 1,118 meters. This difference in altitude between our departure point and where we had arrived translated into a very noticeable drop in temperature. At ten o'clock in the morning the thermometer registered only 14 degrees and went up to only 16 at noon. Used to the excessive heat of regions along the Red Sea, a temperature of 14 degrees seemed glacial to us. Also, while waiting for our luggage, which was following us, we settled down with pleasure in full sunshine instead of searching for shade as we had done ever since we left Egypt.

As soon as our caravan was reunited in Wadi Saasseh, we hurried to get back on the trail. We wanted to get to *Dixah* before nightfall. But Zarail didn't care to arrive at his home at the end of the day, and he needed time to find us a convenient overnight stop. He was too proud to admit that, so he delayed our departure with the excuse that the beasts of burden were tired. We bedded down at *Maiharassat*, about one league from Dixah. The next day we finally entered the residence of the *Baharnagass*, the king of the sea, where for a long time our friend had led us to expect generous hospitality.

SUMMARY of Chapter XIII

Dixah, its location.-- The Baharnagass; how we were received; his description.--The children of Dixah give us a serenade.-- Frequent visits by the Baharnagass; our luggage arouses his envy; he wants to get hold of it.-- Our precarious position.--Passing the night at the encampment of the Agaoudéres caravan.--The lion; it makes off with a mule.--Route from Dixah to the camp of Oubié, near Adoua.--Gounzobo.--The market in Maourray; Guendepta.--Arrival at the camp.--Our reception by the king.-- Description of Oubié.--The gifts that we offer him; the bird-organ. The king grants us his protection.--History of Oubié.

CHAPTER XIII.

A group of miserable shacks graded randomly at the top of a bald and desolate mountain, a wretched village with a troublesome population of about 1,500 souls, Christians and Muslims together, that's *Dixah*. It's located at 14°59' latitude and about 37°8' east longitude. If the route coming from the Red Sea to Gondar were changed, Dixah would become an ignored and forgotten village, because it's importance is due only to its location.

Zarail took us straight to his father's place. Informed of our arrival, the Baharnagass wanted to receive us on the spot. His eagerness seemed to us to be a good sign. But Saïd had known for a long time how terribly this king of the sea can behave,

and he didn't share our confidence. "Be very prudent and discreet in what you say, he told us, you're dealing with the most brazen thief in Abyssinia. If the Baharnagass knows you only have a penny, he'll want his share of it." Should we have believed Saïd's predictions, or counted on the courtesies of our host? Saïd was anything but smart; he could easily have mistaken a hare for a lion. So we paid very little attention to what he said, and we entered an initial room, which served as a stable. From there they took us into a second room where women were busy cooking and baking bread, and lastly into a third one where we were suddenly enveloped in darkness. However, some light came in through a small hole in the roof. But we had just come from bright sunlight and our eyes had to adjust to this questionable light. Without even knowing it, we already were in front of the Baharnagass!

Wrapped in a *taub* that once was white and now appeared dirty gray, considering how long it had been worn and the melted butter on it, our host was seated carelessly on the simplest of sarirs covered only with untanned cowhide. He kept quiet and examined us with deep curiosity.

He was a man of medium height, advanced in age but strongly built and still quite vigorous. His dour expression lacked any sympathy. Nevertheless, a gruff exterior often conceals a noble heart, and we looked forward to finding a further example of it. We didn't have long to be disabused of that. None of the Baharnagass' words betrayed his greed. We watched him endlessly devising tricks to find out what we possessed, in other words, to find out what he could get out of us. "How much money did you have to spend, he asked us, before you got here! Did you at least save some to establish connections among us? Gifts make useful friends. When a chief welcomes you, compensate him for his kind greeting, offer him a gift suitable to his station, and by giving a lot you will have many protectors." That lesson no doubt was worth a piece of cheese. But with all admiration for such a clever way to profitably initiate us into the customs of Abyssinia, we felt certain that we were not going to pay the charge for our education. Saïd had judged it correctly. In this first meeting we saw that the Baharnagass was a greedy rascal; the meal he gave us proved that he was a tightwad.

There was a sort of pyramid set up in the middle of the table,

and the cook, whoever he was, had dug a hole in the top filled with melted butter. Melted butter isn't only a cosmetic in Abyssinia, it's also a delicacy. Our host set upon the pyramid from the side and invited us to do the same. The Baharnagass picked up a piece of it, rolled it between his fingers, wet it in the butter, and swallowed it, all within a split second. Judging from his haste, this dish which we hadn't heard of before would certainly be a delight for us. Alas, what a cruel deception! Imagine barley flour paste that hadn't even been warmed! Out of politeness we couldn't make a face. We heroically went on with the feast, slowly to be sure, sustained by the hope that the second course might make up for this pathetic food. A great person like the Baharnagass, a king of the seas, wouldn't be satisfied with a single dish, and since he counted on giving us a high opinion of his own greatness, his pride should have persuaded him to offer us a comfortable meal. His pride did nothing of the kind. Once the barley flour paste had been finished, the table was removed and mead was served. Fortunately for us, our host was less sober on the drink than he was on solid food. The fermented liquor soon fogged his brain, his head fell forward on his chest,

and without needing to excuse ourselves, we finally could get away from him to eat our own food, since the royal meal left us at risk of dying of hunger.

While we had been talking to the Baharnagass, Zarail hastened to transform the first room into a parlor, and we settled in there where the mule had been. That's where we received, as it were, a visit from all of the inhabitants of Dixah. The appearance of white men was an extraordinary experience for them, and they all rushed forward to see us. Each one wanted to speak to us, to touch us, and to examine the different objects that we had brought along. Everything astonished them, even the numerous nails in our heavy traveling boots, which made them burst out laughing. They overwhelmed us with questions about our country, our religion, and our customs. We tried as best we could to satisfy their naive curiosity, even though it often was tiresome for us.

Our good nature made us a lot of friends. When night came on, we were serenaded. Children 10 to 15 years old, assembled into a very large group, came into our courtyard armed with spears and shields. They marched by several times in front of us in good order. Then, drawn up in battle array and positioned opposite us, they began to sing our praises in the most flattering terms.

It is indeed most immodest for us to repeat such flattery here, but if one indulges in poetic license and with poor poets, it's clear that we have very little else left to us. So here's the Abyssinian dithyramb: "There are no people as beautiful as you; we admire the whiteness of your countenance and the fineness of your hair; you are the brave among the brave; in one day's battle you will throw all of your enemies down into the dust, and a thousand widows will bemoan your victory. Happy are your friends, they are delighted to rest and thrive on your generosity". Added to these improvised songs were grotesque dances, the strangest and most entertaining images of combat that you could imagine. This show, put on by half-civilized people, deserved a substantial reward. We presented one thaler to our admirers, who saluted us again as we left with shouts of enthusiasm. But our generosity had already inspired all of the uninhibited poets of Dixah. A second team soon came along to celebrate our courage and especially our affluent generosity. This time we kept them out, on the pretext that we weren't worthy of so much honor. Several moments later we heard voices arguing some distance away; this was the new group that had joined the first one,

and that claimed a share of their reward.

The next day the Baharnagass arrived to pay us several visits. Our luggage held a special attraction for him; he looked at it with unusual covetousness. Our trunk especially caught his attention. Our bad-luck trunk, what problems it created for us! Protecting a young lady isn't more of a concern for her anxious guardian than that. Without your trunk, oh travelers who want to go through Abyssinia, you will be exposed to innumerable dangers. A lock that closes it even more securely than caution requires, the padlock that locks it up, speaks a world to the imagination of young and old alike. Our host dreamed of wonders and believed that it was full of gold. Precisely at that time the Baharnagass, who owed 10,000 francs to the king of Tigré, had just been threatened with forcible arrest if he didn't make good on it right away. He thought it would be expedient to make the payment from our own trunk. He believed that the trunk held at least an excess of the amount he owed. It only remained to figure out how to get a hold of it.

He had been annoyed by the friendship that his son had shown us, so he began by getting rid of this inconvenient nuisance. He thought of an alibi, and sent him to a neighboring village where he would have to stay for three days. Zarail left us with tears in his eyes,

and he urged us to watch our luggage carefully, because there was no shortage of thieves in that country. This warning, and his sudden departure, were striking and made us think seriously about it. Saïd also had thought about it, and for longer than we had. He was apprehensive, but he was clever and he made suggestions. He soon connected with the sevants of the Baharnagass and listened to all of their conversations. In the end there was nothing he was unaware of. The "honest" Baharnagass had in mind first to strip us of our belongings and then to get rid of us. Our money and our life; he didn't ask for anything more. What good would it do him if he only got the money? Still alive, we would escape his clutches We would bring our pleas before the king. Not only would the king get all of our luggage back from him, but he would make him pay dearly for his malfeasance. Our situation was becoming very critical. How could we resolve this? Disappear on the spot? But how could we get away without porters to carry our baggage? Each of us began by checking our weapons to make sure that they were in good condition. Then, trusting to God's protection, we resolutely awaited the moment when we would have to use them.

That moment never came. But divine Providence rescued us unexpectedly. The caravan of Agaouderés, from Fanta and from Gouchou, had arrived a mile away at Dixah.

The good merchants learned that we were still with the Baharnagass, and they hastened to get to us.

Had they known how anxious we were, they likewise would have understood our elation at the greeting smiling at us on their friendly faces. We explained our predicament in a few words. "Listen, said Agaouderés, here's what you have to do: we will go to greet the Baharnagass at his place. Tell him in front of us that you wish to come to our encampment so that you will be able to leave with us tomorrow morning". It was good advice and we followed it, Although our request took him by surprise, the Baharnagass nevertheless came up with an evasive answer: "But you're going to need about ten porters, he interjected, I'm not sure we can find them before tonight". Agaouderés had foreseen this argument, and stayed with it. "I've got my own men, he replied, I'll get them to take your luggage". It was a clever way to keep the Chohos from siding with the enemy. Their chief, who had an interest in providing us with his porters, stated his claim very loudly and hastened to declare that his men were at our disposal, so we could leave as soon as we wished.

Who was crestfallen? It was the Baharnagass. You should have seen his hapless expression when our luggage went off in front of him.

For several hours he had already looked on it as his property; it was his possession, his treasure. He had already decided what he would do with it, and this fabulous trunk was about to depart across his doorstep! He was desperately close to crying thief. His undisguised chagrin seemed to us almost enough punishment. Nevertheless, not one of us felt like paying any heed to his disappointment. On the contrary, we departed with enthusiastic displays of friendship and gratitude. We may have cursed him in private, but we had to foresee a time when we might have to cross his country again.

On our arrival at the caravan's campsite, the merchants offered us dinner. With one discussion after another (we had our own story to tell), it got close to ten o'clock at night. We went to sleep. We had the ground for a bed, and the branches from a cluster of trees made a roof with the starry sky glittering through its leaves. It was a charming spot compared to the inhospitable lodging in Dixah. But the country of the Baharnagass had more misfortune in store for us. In the midst of silence and in the deep quiet of the night we heard a distant murmur. The muffled sound came closer. Our guides listened, tried to dismiss it for a while, but no longer able to do so, they undertook to sound an alarm,

That muffled sound, that murmuring, was the roar of a lion claiming his prey from deep in the prairie. From one side, then from another, the fearful sound unnerved us, coming from all points around an invisible circle. The fearsome beast prowled around us; he besieged us and allowed us no respite. We lit up large torches in vain. Undoubtedly he was driven by hunger, because in spite of the burning flames, in spite of the shouts from the caravan and frequent bursts from our firearms, we felt that he had hemmed us into a diminishing circle. More than once we heard his feet trailing through the scattered thickets of underbrush; it was at that point that his roaring sounded frightening. We had no idea how to protect ourselves against a monstrous hidden enemy. From which direction was he going to attack? We searched, but the shadows didn't let us see anything. Even our weapons were of no comfort to us. We kept them in hand at the ready, but how could we harm a lion with ordinary hunting guns? In any case the king of the wild hemmed us in the whole time, and his roars rent the countryside. When thunder rolls through the clouds, it frightens all of nature; the roar of the lion evokes that fear again. Our beasts of burden understood the imminence of the danger.

Huddled against each other, covered with sweat as though after a long march, their ears spread and breathing hard, they trembled in a pitiful way. Their warning instinct didn't deceive them. They were more exposed to the common danger than we were. The lion respects the man who fears him. When a lion can choose between a human and an animal, he falls upon the lesser creature. That's what happened. It was three o'clock in the morning. After holding back the entire night and keeping us on the alert the whole night, the lion made up his mind. We heard a leap; in one instant breaking through the fire line, pouncing upon a mule, and carrying it off. The danger had passed. The mule's owner was devastated by his loss. It would be most hypocritical to appear as though one pitied him. We were only too happy that this scary but tolerably uneventful drama, after five hours of stress, didn't end more disastrously. We had wished the lion to be free and restored to the wild. We were satisfied, and we would not have wished it otherwise. Worry had rendered us sleepless; we made it through the night recollecting and agitated.

It was October 20th. As soon as the sun came up we got ready to depart. More impatient than the rest of the caravan, we were ready before everyone else.

We were in a hurry to leave Dixah, where our stay was nearly a disaster.

In making the trip in the most comfortable and convenient way, we had until now managed things on our own, so to speak. In Abyssinia, one mustn't go on foot if one wants to enjoy any respect, and even less so should one ride on a donkey. No longer were we in Egypt, nor in the three Arabias. One simply would become a laughing-stock and be scorned by the natives. Their contempt for that goes further than one could imagine. Even though the Gospel identified the donkey by name, when an Abyssinian painter illustrates the flight of the Holy Family, he never consents to dishonor his work with the presence of this innocent animal. So what does he do? Since if the nobility of art does not permit him to depict this poor quadruped, religious tradition also won't tolerate another riding animal for the mother of the Lord. He takes a middle way, and in deference to both requirements he contrives a small nameless creature, which certainly is not a donkey, but also one that could not be called a horse, nor a camel, nor a mule.

Well, mules are a different story; that's an honorable riding animal. We bought four of them, fifty francs each, and we set off at eight in the morning.

The road we followed is one of the most frequently used in Abyssinia. It's the route the caravans take to the sea and the way they return. But nevertheless, don't be fooled. It hardly looks like any of our main highways, the commercial routes that go across France. Simply speaking it's a track, nothing but a track. It has been gradually traced out by the footprints of travelers; it twists randomly along hillsides and across the middle of the plains. Here and there it skirts some thorny trees; take care, you run the risk of tearing your clothes and your legs. The countryside that it crosses is hilly and seemed to be quite well cultivated. One league from Dixah one passes near *Adde-Haddit,* located on a mountain-top. An hour later we reached another village called *Adde-Goutta.* Finally we entered the district of *Degoundouga*.

First of all we looked for an empty place to make a stop. Thus rid of demands from the natives, we spent the rest of the day in delightful tranquility. After the turmoil of the day before, the tribulations of the night and the fatigue of the journey, we were in dire need of a rest. We enjoyed that supreme pleasure, called *far niente* [*Translator's note*: doing nothing].

Fresh and revived, we resumed our journey the next day at seven o'clock. At nine we were on the crest of the hills overlooking the district of *Gounzobo*. Here's what we saw before us: close by below our feet was the village of *Saïdah* in a narrow gorge. Further on was a huge amphitheater surrounded by giant ramparts that ended in the distance in crumbling piles flanked by colossal towers. This amphitheater of the giants was actually formed by the extraordinary arid mountains of Gounzobo, whose barrenness contrasted strangely with the fertile plain that they surrounded. We set up camp at their base for about an hour in an area without any dwellings called *Maourray*. There is a weekly market there where the people of the Gounzobo district and its surroundings come together. With bad luck, we arrived precisely on market day in the midst of a large crowd. We had been warned beforehand that the people of Gounzobo are dishonest, rude, and thieving. They gave us no opportunity to dispute that reputation.

At Maourray, a caravan passing through generally must pay a customs tax; but since the rule failed to set an exact fee, collections are somewhat capricious and inevitably lead to long disputes. With a look at the market, the Gounzobo people

were numerous, and they began by posting exorbitant claims along with threats that seemed certain to lead to a fight. One can only imagine the outcome of such a conflict. So merchants sought only a very small discount and had to close the deal immediately afterwards. What shouting, uproar, abuse! Even so, it was only about a few handfuls of black pepper over the usual fee; they didn't quarrel about anything else. When our turn came, the subject of the argument changed. Pepper, fie, for shame! A handful of thalars was the right thing; that's what they expected from us. And they were all the more of a mind to fleece us because we had committed a serious offense; we had failed to put on the *matab*, (a cord of blue silk that Abyssinian Christians always wear around their neck), so the people of Gounzobo took us for Muslims. Fortunately the priest of the district arrived at the opportune moment, and we had the chance to reveal our faith. He appeared draped in a red cloth cape that hung in tatters, and his head was majestically dressed in an enormous turban of white muslin. A child dressed in red walked in front of him holding a silver cross. Two hefty spear carriers acting as singers escorted him.

Several psalms were chanted, certain prayers were recited, and then the priest blessed the caravan, men and animals all at the same time. The onlookers didn't take their eyes off us. Imagine their close attention when the priest passed in front of us to take up a collection for the church. This was our moment to show ourselves to be good Christians, and everyone saw a thaler drop from our hands into the priest's purse. We know that this offering wouldn't count for much for one who understands the depth of the heart. But henceforth we had our reward here below; our generosity counted as an act of faith. Seeing that they had to deal with Christians, and even more so with people who were not easily intimidated, our Abyssinian brothers stopped harassing us about the customs issue and treated us as friends.

We left at seven o'clock on the 22nd. After coming out of the Gounzobo mountains we entered a large and beautiful plain covered with grass and mimosas, unfortunately uncultivated. Many flocks were crossing it here and there. The shepherds in exchange for tobacco or black pepper treated us to pure warm milk that they hastened to draw at our request. The plain was irrigated by two rivers, the *Tséréna* and the *Bélessa.*

We were told that they flow to the northwest, and after merging together they empty into the *Mareb* about three leagues west of our route. At this time the water levels were very low. But according to the people around us, and judging from the remains of the last harvests, it appears that in the rainy season the rivers are very full. At that time communications are cut off. Abyssinians don't know how to build bridges and rarely use rafts to cross the rivers. At one o'clock in the afternoon we stopped in the district of *Neggot*, one league south of the Bélessa.

So we were approaching *Adoua* and the Oubié camp. The countryside was safe and peaceful, unusual for Abyssinia. Delighted with this rare security, the caravan merchants definitely wanted to enjoy it. There they were, strolling at a leisurely pace and further prolonging their stops in accord with their nonchalant nature, so much so that the caravan took three days to go from Neggot to *Guendepta*. Three long days to cover a distance of eleven leagues! This slowdown exhausted our patience. Our Abyssinian companions were astonished by our bad mood, as though time didn't exist for them. In this Oriental country no one counts the days. This one goes badly, they're resigned to it;

The next day is better, and it goes by peacefully. Could life be any better? But we children of the west where everyone is in a hurry, where we have divided the hour into minutes and the minute into seconds, wouldn't we regret having wasted this time? We were late in appearing before the king, to learn finally if we will be allowed to stay in his domain and to travel freely in it as our mission demanded. At Oubié's whim our efforts might all be lost, our exertions all in vain. Our enterprise could founder on his ill will, and we would return to France as if we had never left. What would be the propitious way to come before this unknown king? Agaouderés was his representative. If Agaouderés spoke well of us to him, he could arrange a favorable reception for us. So he became the main object of our attention.

When we got to Guendepta, we invited him to come into our tent where we wanted to speak with him without others present. " Agaouderés, we said to him, and this was the truth, since the day that we first got to know you, your friendship has been useful and a pleasure. At Dixah you did more than a great favor for us; you saved our lives. During the long trip that we have just made, you always treated us with the kindest consideration.

We don't want to continue feeling ungrateful. This tent, this pair of pistols, this length of muslin, are yours. Accept them as gifts of our friendship and gratitude". Agaouderés thanked us in his turn. He was delighted with our presents. He promised to put us in the good graces of those around the king, and in the good graces of the king himself. He went beyond our wishes.

We left Guendepta the following morning at eight o'clock. Following a quick descent, we entered the valley of *Robber-Aeïni*, This pleasant fertile valley, surrounded by high mountains and covered with all sorts of trees, led up to *Mariam-Chaouïtou,* a venerated church surrounded by savins, wild olive trees and fragrant mimosas that covered it with their mysterious foliage. We left Messrs. Rouget and Bell there; they had to go with the caravan as far as Adoua. Accompanied by Agaouderés, we headed toward the Oubié camp, which was about one league to our right. We got there at eleven o'clock.

The camp was situated on the flattened summit of a high mountain whose precipitous slopes allowed for an access route only on one side. It was sort of a randomly built village,

like almost all the towns in Abyssinia. Our arrival created a great sensation among the soldiers; it was about who saw us first and who would be the first to speak to us. Unfortunately king Oubié didn't feel such eagerness. We were told on his behalf that he had dedicated the day to prayer, and that he couldn't receive us until the next day. This delay didn't seem to bode well. What sort of welcome did Oubié have in mind for us? Our uncertainty became more worrisome. The night seemed long, and we couldn't sleep. Restlessness kept us from closing our eyes, and the vermin even more so.

Finally the moment arrived! It was October 27. At about nine in the morning an officer assigned to be our *baldaraba* (introducer to the court) came for us to bring us into Oubié's presence. The royal residence was fairly close to the center of the camp. An enormous hedge of branches separated it from the soldiers huts and enclosed a large area around it that contained the women's quarters, the kitchens, the stables, in fact all of the amenities that in Abyssinia proclaim luxury and comfort. Before our arrival at this enclosure an inquisitive crowd pressed forward to meet us, and we moved ahead with difficulty. But once inside,

we could proceed more at our own pace. At that point we only had to deal with military officers and the king's household staff. They invited us, with exceptional courtesy, to have a seat while we waited for the order for us to appear. That order came soon. We then entered a house that had only one room on the ground floor. The house had been built with care, however the walls weren't even whitewashed on the inside. In fact the only furniture and decoration that we saw were a few swords and shields hanging on cattle horns attached to the wall. A layer of fresh grass was spread on the ground; the floor consisted of litter. In an alcove at the right of the entrance the king was casually lounging on an opulent *sarir* covered by a bright-colored Persian rug. On his right and on his left stood his principal personal attachés. Lastly two pages, children aged twelve to fourteen and naked to the waist, were stationed behind the royal sarir to brush away flies and to keep them from bothering the master.

All of these people were dressed in bright white fabric

that set off the black color of their faces. They maintained an appropriate bearing before his royal majesty. When the prince desired to spit, the one closest to him quickly offered him his own garment, which thus became a handkerchief. When the king sneezed or made the slightest move, the same cloth was spread before him to protect him from the evil eye, whose influence was deadliest, the Abyssinians say, while one is in motion.

We greeted Oubié with signs of our greatest esteem. Agaouderés had given us his word, and the king smiled at us very courteously. With a gesture of his hand we were seated next to his ministers, who hastened to make room for us on their carpet.

Oubié was dressed in an extremely fine *taub* that completely covered him, falling down to his feet and rising above his lips. He had to speak for all of his features to be seen. About forty years old, short in stature, slender and lean, he nevertheless had an agreeable expression, refined and intelligent. He had a broad face, a long curved nose, thick lips, and his eyes were lifted at the outside corners like those of the Indians. His lively and penetrating eye seemed to want to search your soul and to explore your innermost thoughts.

While we were studying his hair, which was separated into small braids coated with a thick layer of fresh butter and which descended in ringlets behind his head, he himself contemplated us with careful attention. After a moment of silence he addressed us, but via an intermediary, the *affa-negous,* the king's spokesman. To maintain his dignity he never speaks directly in public to those who visit him.

"Welcome" he said to us " I am delighted by your successful arrival. I know you have protected the Abyssinian merchants in Massawa and I consider you to be friends. Tell me what I can do for you."

-- Permit us to freely cross your kingdom and accord us your protection.

-- You are free to go wherever you please. But tell me what your goal is in venturing this far through all the dangers of such a long journey?

-- The Abyssinians are our brethren in Jesus Christ, and we wish to get to know our brothers. We also intend to collect some medicinal plants that don't grow in our countries and that are effective against bodily ills. (To discuss scientific research

would have been useless and risky; no one would have understood us.)

-- I know that white men are very curious, that they want to see and get to know everything. Perhaps it's due to this urge that your race owes its predominance over all the other races, because you know how to perform wonderful things.

-- Here are some of the objects that are made in our country; we request that you accept them and that they will please you!" We offered him simultaneously a saber of the light cavalry, a rug, together with a spy-glass.

Oubié examined the three objects with careful curiosity. He praised them using words that expressed keen satisfaction and handed them to his officers so that they could admire them in turn. Our gifts had pleased the king, and they naturally aroused the enthusiasm of his court. Still, we hadn't thought it necessary to offer everything at once. There remained in front of us a small chest, and they asked why we were still waiting to display it, since there was no doubt that it was meant for the king. There was nothing unusual on the outside. Neither an elegant casing nor its size called any attention to it, yet all eyes were fixed on it. So what in fact was keeping us

from opening or presenting it? We had already thought a thousand times about how one day it would astonish the Abyssinians. When the moment actually came to deliver the great surprise, there no longer remained any doubt. They looked as though they were about to take us for magicians or wizards. However, the impatience of the onlookers increased the more we delayed. The mystery got them excited, and the king himself in the end cried out:" But what's inside that box?" There was no delaying it further. Without answering, one of us placed his hand on a wooden knob, turned a handle, and the box sang out: it was a music box that we had bought in Marseille. In front of the black king and his court, it played the no. 1 tune, the cavatina from *La Dame Blanche* [*Translator's note: The White Lady*, an 1825 opera by Boieldieu].

There was no way to describe the emotion, the surprise, and the rapture of the listeners. Nothing that sweet had ever gone from their ears to their hearts. They listened with silent devotion, motionless, eyes wide open, holding their breath. After a moment the melodies fell silent. We wanted to let them catch their breath, and to enjoy our success ourselves. But questions poured in from all sides. We had to explain the secrets of this wonderful instrument,

and to go into details that they hadn't understood; the music box piled even more problems on us. So we went on to number 2, then to number 3, and so on until the very end, ceasing to turn the handle only when our hands collapsed with fatigue. But the initial surprise had changed to merriment. Their expressions, at first so serious and so severe, lightened up with gaiety and joy. Laughter had replaced formality, and widespread good cheer erupted loudly. Calm was not restored right away. When their expressions finally relaxed, Oubié graciously thanked us for our gifts with good-natured dignity. He then asked us if we intended to go on to *Gondar*. When we replied in the affirmative: "The routes are not secure, he told us, and you will find that the provinces that depend on the Ras are poorly governed. Don't leave my country before next year. At that time I will probably be able to provide you with the means to get there safely. Whenever you wish to see me again, you always will be welcome, and now you are free to leave".

We scarcely had left the room when he ordered that they bring us an ox and four sheep. This was demonstrable proof of his favor, and we likewise had won the esteem of the soldiers. So we left Oubié delighted with his fine welcome

and with his elegant and friendly style. Oubié is a powerful, ambitious, and wise prince. He understands the advantages to be gained from pursuing relations with us in the West. For this reason he deserves to have us include here a line or two about his background.

Oubié is the son of Detjach Heila Mariam, the hereditary chief of the Samen. Heila Mariam had seven children by different wives. At his death he left his estates to his third son, Marso. The known incapacity of the eldest son prevented him from succeeding his father. As to the second son (this was Oubié), the lowly birth of his mother, Oisoro Mentaye, likewise kept him from power. But Heila Mariam's sons did not honor their father's last wishes. They banded together against Marso, who was still too young to contain the revolt, and they forced him seek refuge outside of his estates.

The Samen thus fell under two regimes. Oubié, prudently ambitious, already had taken advantage of the conflict by allying himself with Beletta Derresso and Madjié Oualda Kikana, the two army chiefs who came from his mother's homeland. The army thus declared itself in his favor, and he ruled without opposition over the country of his ancestors. Having learned from his own example, and fearing a coalition similar to the one which had brought himself to the throne, he rendered his brothers unable to engage any supporters;

he left them impoverished by restricting their revenues to the very minimum required.

Nevertheless, from the depth of his retreat, Marso raised problems for the one who had defeated him and looked for enemies to oppose him. Oubié foiled his projects. A clever politician, and an especially fortunate one, he succeeded in forming an unexpected alliance with Imame, the Ras of Gondar. This alliance destroyed the chances of young Marso and in a way legitimized his brother's usurpation. But the death of Imame changed everything. Marié, the new Ras of Gondar, appeared to be less favorably disposed toward Oubié. Forewarned by Aligas Farès, chief of Lasta, and the brother of Marso's mother, he immediately suspended any friendly exchange with the chief of the Samen, and conflict soon became imminent.

Oubié wasn't strong enough to resist such a powerful enemy. He hastily called on Sabagadis, chief of the Tigré, for help. Sabagadis was a skillful ruler. He was imbued with a noble ambition, namely to reconstitute the former unity of Abyssinia. The alliance that Oubié offered him lent itself splendidly to this prospect. To strengthen it, he married the chief of the Samen's sister. Having become his brother-in-law, he immediately made him his son-in-law by giving him his daughter whom he married in a second wedding.

Thus allied with one another, they hoped to destroy in Marié the power of the Gallas. It was all very convenient. With Marié defeated, Sabagadis would assume the title of Ras, and Oubié would declare war on the common enemy.

That was in 1830. Marié didn't lose a second. He abruptly began the campaign. With his Gallas he entered the territory of his rebellious vassal, cut his army to shreds, and ravaged the entire country. Stunned by this vigorous attack, Oubié retreated to the impenetrable mountains of the Samen and told Sabagadis to come as soon as possible. Sabagadis, confused, waffled back and forth, wrote that he was coming, put it off from day to day, and then stayed put. The father-in-law had basely abandoned his son-in-law. But Oubié already had made up his mind: betrayal for betrayal. Sabagadis had given him a lesson on how to break one's word. Oubié was about to give him one on how to get even. He sent a secret messenger to the Ras, telling him about the treaty he had concluded with the governor of Tigré and added the following words condemning Sabagadis: "Seeing how ill-disposed you are toward me, Sabagadis offered me his alliance and the help of his soldiers on the condition that together we will attack you, and that, if God grants us victory, he will become Ras instead of you. In view of my situation with you, could I have refused to do that with impunity?

Would I have to have gone to war both against you and against him at the same time? To prove to you how deeply I regret the harsh necessity of turning my weapons against you, I ask but one thing of you: make peace with me, and I will at once declare myself an enemy of Sabagadis."

Oubié foresaw very well the effect of his words. The Ras, his own power threatened, hoped only for revenge. Sabagadis had dared to conceive a plan to dispossess him; Sabagadis must perish. Also, Marié hastened to make peace with Oubié, making no demands other than he move against Sabagadis as quickly as possible.

Oubié jumped for joy at this prospect. He had experienced the power of the Ras at his own cost. Sabagadis was not prepared to battle the joint forces of the Amhara and the Samen. He would surely be defeated. At this point who would gain by winning? Oubié had no illusions about it. He knew Marié and the behavior of his first servants. He knew that the Gallas wouln't remain for long outside of their beautiful provinces. With Sabagadis defeated, he saw himself left alone to pursue the governor of Tigré and to subdue his kingdom. The skillful strategist had calculated well; fortune respected his discretion and even rewarded him beyond his hopes.

So the Ras and Oubié got going against Sabagadis. Their joint forces soon were separated from the Tigréan army only by the deep valley of the Taccazé. The passage of this river in front of the enemy presented some novel problems. On January 13, 1831, Oubié in a clever manoeuvre, evaded Sabagadis' vigilance, crossed the Taccazé without encountering any resistance and finally appeared on the plain of Chiré at the head of the formidable cavalry of the Gallas. Sabagadis anticipated the blow, and soon the two armies clashed with loud cries. Victory still was not assured, when death struck down the Ras. With but one word, a single rumor, the day would be lost. Oubié ordered silence. The Ras was strapped into his saddle. The guards surrounding him continued to hold aloft the sparkling canopy over his head, the sign of supreme rule. The canopy dominated the fray, and the Gallas battled constantly with the same fervor, believing that they were still fighting under the eyes of their Ras.

Nevertheless the Tigréans were in a good position. Lying in wait in thick woods, their gunners unleashed a murderous fire, and the cavalry couldn't get at them. Oubié appeared to tire of a useless attack and moved toward a retreat. Sabagadis saw him yield and turn his back; this was victory. He wanted to finish the job, and he started off in pursuit of the fugitives.

But hardly had he deployed on the plain, when Oubié came back with a furious charge. The Tigréans, their ranks disordered, had not expected this next conflict. They were thrown off; their commanders couldn't rally them, and Sabagadis fell into the hands of his victorious enemy.

After the victory the relatives of the Ras demanded that the chief of the Tigré be released to them to take their blood vengeance. Oubié should have refused to hand over the defeated enemy of high rank to them. But the politics of the Orient knows of no such universal principles. Self-interest prevailed; ambition predominated. The following morning Sabagadis, sacrificed to the ghost of the Ras, was run through with thrusts of a spear and perished. The Tigréans loved their prince. They never cease telling with emotion of the sorrowful drama of his last day. They recount with pride that he died calmly like a soldier, like a Christian, like a martyr.

The death of Sabagadis opened an avenue for Oubié's hopes. But this unexpected good turn did not make him careless, and he carried out his plans wisely. First of all he proclaimed Dorié, the brother of Marié, as Ras and was the first to recognize him as his sovereign. By his zealousness and by this pretense of devotion he fell into his good graces. Just as he had foreseen,

he was rewarded with the rulership of the Tigré, which he was charged with subduing, while the new Ras returned to his own domain.

That's when Oubié's war began against the children of Sabagadis, who were supported by the inhabitants of Tigré. One of them, Wolda-Mikaël, gathered his partisans and sought to reorganize an army. Oubié didn't give him enough time to do it; he was pursued, surrounded, hunted from plain to plain and from mountain to mountain. Attacked one last time near Halay and forced to fight, Wolda-Mikaël was defeated and left among the dead.

Cassaï, the third son of Sabagadis, then entered the fray. Backed by soldiers from Agamé, the most capable riflemen of the Tigré, he contested his unfortunate father's legacy with the victor for five years. But his efforts would be to no avail. Little by little Oubié acquired more territory, organized friends, formed allies, and consolidated his power. He cornered his enemies in the Haramat mountains, where he had blocked all the escape routes. Cassaï might have held out for a long time on the peaks of these inaccessible mountains. It would be necessary to lure him down, and the lure worked. Oubié beat on the négarit (a kind of drum), and it was announced that he himself, *dejechmatch* of the Samen and ruler of the provinces of the Tigré,

would wholeheartedly forgive everyone who until then had been his enemy, and who would come to his tent and promise to obey him in the future. For eight days the négarit could be heard; the proclamation of the victor traveled by word of mouth and spread among the partisans of Sabagadis' family. Defections soon began, and Cassaï himself, having received offers from Oubié, went to the royal tent followed by his younger brothers and his most faithful servants.

Oubié received him with all the consideration due to his rank and to his misfortune. He even entrusted him with the governance of the Agamé and that of the Enderta and gave him his daughter's hand in marriage, on the sole condition that he acknowledge his rulership. This unusual generosity stunned everyone. They didn't understand how Oubié could leave two large provinces in the hands of a prince whose influence was still to be feared, and who wouldn't hesitate to seize the first opportunity to declare himself in open revolt. But Oubié's policy had judged things more soundly. As soon as Cassaï thought better of it, he would see that disloyalty would be imprudent. It would ceate dangers for the victor by arousing his enemies. Moderation on the other hand would pacify them. Furthermore, Cassaï by submitting would fall into disrepute in the eyes of his own people.

He would lose the prestige that belongs to the hero of a determined struggle. To eliminate it later on, if conditions demand it, would be an easy task. What must he do at the moment? Only take steps to make sure that he submits. That's what Oubié wisely did.

Several conferences had brought the victor and the vanquished together. Oubié made good use of them to study his rival, and he observed in the young prince neither the resolve nor the intelligence to be a tribal chief. Oubié concluded with his usual acuity that in the five-year war that he had waged against him, Cassaï had been only an instrument; its mind and soul had lain elsewhere. People were still to be found who had guided all of his actions, clever and dangerous men that he had to get rid of right away. Who were these men? Oubié lost no time in finding out. One evening after a splendid banquet celebrating his daughter's wedding to Cassaï, he set about flattering his son-in-law with all the expressions of sincere friendship, praised him handsomely, boasted of his courage and the devotion of his faithful servants, and added that their zeal deserved a reward. Charmed as well as trusting, Cassaï named his best advisors. Oubié made note of their names. A few days later, under one pretext or another, he had them all arrested

and led up to the *Tezen* mountain, the state prison located in the Samen.

Later on, and in spite of this irreparable loss, Cassaï wanted to declare his independence. But the king already had numbered many partisans in the Tigré. He had many guns. This revolt by the son of Sabagadis was more of a desperate notion of his than it was a serious event and a danger for the chief of the Samen. Nevertheless Oubié overlooked nothing in suppressing this movement as quickly as possible. He took to the field, and soon Cassaï had to retreat to the *Amba Haulé* mountain the same way he had just retreated to the peaks of the Haramat. His enemy settled for surrounding the mountain. Exhausted from spending days on a barren rock, Cassaï appealed to the mercy of the king: he asked to be pardoned once again, to be in command of the Agamé, and made a promise to remain faithful.

Oubié seized the opportunity to finally free himself of a tiresome claimant. As to the pardon and the command, he agreed to all of it. But there was a problem: Oubié demanded that Cassaï come to his tent to render his submission, but Cassaï, suspicious for good reason, was not inclined to give himself up to his conqueror. He hesitated for a long time, held back by some hidden foreboding, or perhaps by his own feelings of disloyalty. But in the end he seemed committed to the strength of his promise.

Furthermore, Oubié swore before God, in front of his priests, and upon the Holy Scriptures, that he no longer would dwell on the past. Cassaï came down to his tent. Hardly had he gone into it, when he was put in shackles to take him up to Mount Tezen where his former servants had preceded him. In vain did he reproach Oubié for his perjury and for his sacrilege. Oubié replied that betrayal was legitimate treatment for a traitor, and by rebelling against his benefactor, he had deserved in advance all of the means that were used to punish his shameful ingratitude. This took place in 1839.

From then on Oubié ruled peacefully over the Samen and over the Tigré. When we arrived in Abyssinia, he was the most powerful and the richest of the chiefs in the Abyssinian empire. Soon we would see him march against Ras Ali, whose sovereignty he did not recognize, in the hope of conquering his territories and fulfilling Sabagadis' plan to reestablish the unity of Abyssinia.

SUMMARY of Chapter XIV

Arrival at Adoua -- Description of the town and its population and its geographic location -- The river of Assam and its course -- Continuation to Frémona, former Jesuit settlement -- Visit to the governor of Adoua; details of his life -- We visit the market; the products that are found there -- Salt is used as money; location of the mine where it comes from; its monetary value is based on the distance from the mine -- A dreadful punishment in the marketplace.

CHAPTER XIV.

The capital of the Tigré, built simultaneously in the plain and on the slope of a hill, reveals nothing remarkable; its appearance is no better than that of most of our villages in France. The streets are narrow, irregular, cluttered with stones and rubbish and bordered with walled enclosures or wretched-looking homes. The population, Christians and Muslims together, doesn't exceed four thousand souls. There are four churches surrounded and deeply shaded by large trees. But worship in the country distinguishes and honors above all the church of *Médani-Alem*, located in the center of town and dedicated, as its name indicates, to the Savior of the world.

Except for the southwest, Adoua is surrounded by high mountains mainly formed of upright shale. On the north side is Mount Chelloda, notable for its great height and for the shape of its summit that the Abyssinians liken, quite correctly, to the back of a horse. Through these mountains flows a small stream called *Assam* that provides water for the town. Its source isn't far from Adoua. It flows southward, enlarged by two or three small watercourses, and then empties into the Warié, one of the tributaries on the right bank of the Taccazé.

According to our astrronomical observations, consistent through nine series of circummeridian elevations, as well as the sun and Capella and Jupiter, Adoua is situated at 14°9'34" north latitude.

Its longitude, determined by chronometer relative to the longitudes of Axoum and of Intetchaou that we had determined a little later, is 36°35'9" east of the Paris meridian.

We discovered in the midst of our barometric observations that the town, near Médani-Alem, is at 1,900 meters above median sea level.

From the moment that we arrived, Agaouderés generously had placed one of his houses at our disposal, and we stayed there.

We had hardly settled in, when we were visited by three Greeks who had been living in the capital of the Tigré for a long time. It was a friendly visit if we do say so, interesting and well timed. Joannès, a sort of big shot, was in charge of this delegation. A jeweler, blacksmith, armorer, depending on the occasion and on the king's wishes, Joannès was about forty to fifty years old and was almost a jack-of-all-trades. Someone that useful quickly becomes valuable; his importance increases in proportion to his service. In order to keep him close by, Oubié gave him territory, even villages, from which in his role as landlord he exacted substantial revenues. Rich as a result of his skills and the possession of valuable properties, Joannès lived a life of great ease, as fortunate as anyone on earth could imagine, but not without a little worry mingled with his prosperity, because Joannès was endlessly afraid of competition. When he heard of our appearance, all his anxieties were stirred up; he feared a threat to his influence. We hastened to assure him that we were not armorers, nor jewelers, nor blacksmiths, and his expression seemed to brighten a little at these calming words. Nevertheless, they didn't win him over completely, and he constantly suspected us of disguising our real intentions.

With this in mind he took the opportunity to discredit the country and to exaggerate the wretchedness of the Abyssinians, an insurmountable obstacle to his plans for success that he had long cherished. It was exactly the scenario of the miser and his ten thousand crowns. So that nothing would be missing from this comedy, when we had been sufficiently informed about the dearth of resources in the town, he shook our hands warmly with emotion that touched our hearts. At the threshold, he once again urged us to leave Abyssinia as quickly as possible. It was an ungrateful and accursed land that men nourished in vain with their sweat and sowed with their labor merely to harvest their bare necessities.

Close by outside the house, a crowd of all classes Abyssinians gathered where the Greeks had been. In confusion they crowded up against our door. Some were drawn by the hope of getting some gifts, others by the color of our skin and the uniqueness of our clothing, which aroused the highest degree of astonishment. Though their curiosity was naive and well meaning, they didn't allow it to get very bothersome. Still, we were on our guard against trouble while receiving our visitors. Whether it was weapons, books, instruments, they wanted to see everything and they couldn't look without touching them. We let them have their way, even graciously answering the questions that they all put to us while trying to outdo each other;

questions that were quite childish and frivolous. Among them they especially repeated these: were we married? did we still have parents? had we been to Jerusalem? Listen, some of them said, do you know what brought them here? It was the severe climate that drove them from their homes. Others, nodding knowingly, it was poverty, they repeated; their country had no water or food.

We exchanged visits. It was our turn to go into some of their dwellings. Most of the cottages in the capital of the Tigré were built of stone. Some were plastered on the inside, using an earthen mixture of limestone clay that made them appear remarkably clean. Some of them took on a rectangular form, others were shaped like cylinders. The latter always were topped by conical roofs. There were no windows or chimneys. Sometimes a circular walkway intended to hold fodder and grain surrounded the house. In the center was the master's dwelling. This was a room that was lighted by day through the doorway and simultaneously served as kitchen, dining room, and living room. The owner shared it good-naturedly with his mule and his horse. If he were poor he also often brought in his sheep and cattle at nightfall.

The furniture corresponded with everything else: a *sarir*, wicker baskets, most artistically woven as well, huge cattle horns suitable for holding mead, earthen vases of all sizes, saddles, bridles, spears and shields hung along the whole length of the walls; that was the sum of it.

When we took leave of him, Detjach-Oubié had promised to provide us with a soldier who would protect us and facilitate our travels in the Tigré. Two days later, the king's soldier showed up at our place. His name was Guébra-Mariam. His manners, his calm and serious expression pleased us, and time only served to enhance the confidence that he had at first inspired in us. In introducing himself to us, Guébra-Mariam uncovered his shoulders and bowed down to kiss our feet as a sign of respect. We lifted him up right away, and we asked him how Detjach-Oubié was doing. "The prince is doing well, he told us. He has commanded me to accompany you in your travels, and to deliver to you every day via the *choums* of the villages a jug of mead, a hundred loaves of bread, a sheep, a can of milk, with the fodder required for your mules and for your beasts of burden.

In any event, before you leave Adoua, Detjach-Oubié asks that you do him one favor. --- What was the favor? --- To restore *the voice* to the little box that you had given him as a present. Yesterday it became hoarse, and it doesn't want to sing any more." As he spoke these words, Guébra-Mariam opened a small bag that he held under his arm and took out the music box.

The hoarseness was easy to imagine. Detjach-Oubié undoubtedly attributed it to the change in climate and the fatigue of the journey. But the truth was that for a mysterious voice and one that he believed to be so delicate, he had not taken sufficient care of it. He had allowed no rest for the frail and melodious spirit imprisoned in the box. The song from the *Dame blanche*! And again the song from the *Dame blanche*! Always that song from the *Dame blanche*! First of all he himself, then each one of his officers, turned the handle so much that the poor machine was completely thrown out of order.

We had no trouble guessing the cause of the hoarseness. But may the devil take the doctor who diagnoses the illness and can't discover the cure! To admit our problem would be to lose the esteem and favor of the prince. After we had been afraid of appearing to be magicians, we now feared they wouldn't find us magical enough.

But Saïd had given us frequent proof of his expertise. We entrusted the instrument to him. If this decent fellow wouldn't know how to repair it himself, at least we were indebted to him for an excellent suggestion: he advised us to resort to the skill of a blacksmith. On one of his visits Joannès had prided himself on being able to work indiscriminately with iron, wood, copper, even with gold. We provided him with an excellent opportunity to add a new jewel to his technical and artistic crown. We brought him the music box; he hardly had it in hand when he examined it, dismantled the cylinder, replaced the missing small teeth, and straightened the handle that the amateurish Abyssinians had twisted up while they were vigorously turning it. Two hours later the instrument had recovered the purity of its voice.

Guébra-Mariam was immediately told to take it to the king. Detjach-Oubié, delighted by our promptness, hastened to show his pleasure. He sent us a huge ox, which delighted our entire household. We note here that Joannès got no reward for his efforts. But in the end we undertook to enjoy the success of his skill.

Slaughtering the ox, exsanguinating it, skinning and carving it up, dismembering it, so to speak, took only a few minutes. Thanks to Guébra-Mariam's skill, our thatched cottage, thoroughly decorated with cuts of beef, soon looked much like a butcher shop. Nevertheless, the king's lieutenant, who had been assigned to entertain us, neatly sliced off a piece of tenderloin and set it on a table in front of us. He invited us to eat it while lukewarm, still raw, almost quivering. Our instincts told us not to partake of this preliminary delicacy. But our household servants, less fastidious, were watching us with envy. We indicated our assent, and all of us pounced on the steamy meat. Greed whetted our appetites. Our appetites turned ravenous, and the morsel disappeared in the blink of an eye. It was a bizarre spectacle, watching these half-naked people tear apart the remains of almost living flesh with ferocious enthusiasm. Guébra-Mariam himself ate well more than three pounds of it. One would have said that he hadn't eaten anything for two weeks. Moreover, his stomach was grateful and in the fullness of his gastronomic enjoyment, he repeatedly praised our generosity. Our cuisine had seemed so good to him, that on the next day he introduced his brother Echeuber to us with the request that we employ him in our service.

Along with Echeuber we took on five more servants, which brought our total number to ten. Our group thus complete, we headed off on our excursion to the vicinity of Adoua.

One of our first routes took us to Mai-Gogoa. That's the site of the former monastery of Frémona, built by the Portuguese Jesuits. It is situated half a league from the town on a plateau that slopes slightly toward the south and is bounded on the west by rough rocks and insurmountable cliffs. The monastery is in ruins. With little money and little work it would be easy to raise its walls, and the monastery would again become a delightful place to stay. But we're now in Abyssinia, and neglect by the natives, far from repairing the damage over the years, apparently hadn't even let it be noticed in the beautiful site where the missionaries had built it. Nature, however, seems to have fulfilled a wish. Fertile soil, fresh water, delightful shade, all came together there. Everywhere we looked she had abundantly adorned the fields and hills with lovely woodlands and landscapes. We spent three quarters of an hour on the plateau of Frémona without tiring of the splendid panorama unfolding all around us. But the sun was approaching its zenith, its rays descending almost directly on our heads, and we were obliged to move on.

Back in our lodgings we heard that the governor of Adoua, Ato-Ouessan, had come to see us. As gifts for us he had left two sheep, fifty breadloaves, and a jug of mead. This courtesy didn't allow us much delay, so we hastened to return the visit.

We found him at home, sitting on the ground next to his mule, chatting informally with his servants. He got up as soon as we came in and brought us into a nearby room, where we had the pleasure of meeting his wife Oisoro-Semrette. Sitting at the time on a sarir, she was engaged in spinning cotton using a spindle that she rolled along her right thigh with remarkable skill. The way that she held it there caught our attention right away. It also must be said that her thigh was exposed from the hip down, and the pleasing fullness of form seemed especially right for facilitating her work. Alas, we have to say, all that the governor's wife had for clothing was a cotton shirt. No shoes on her feet, no cap on her head,

but to be truthful her hair was carefully curled, forming a thousand ringlets around her neck. Our cosmetics, unknown here, were replaced by a huge slab of butter. At a temperature of thirty degrees the layer of butter became a fountain. It ran down all over the brown shoulders and the half-naked bosom of Oisoro-Semrette, giving them a glassy shine. Imagine, if you will, this type of appeal. Our European prejudice didn't view it without distaste.

Oisoro-Semrette welcomed us graciously. She seated us next to her, and right away Ato-Ouessan flooded us with questions about Europe, and especially about the women. Though the questions occasionally were embarrassing, we answered them quite appropriately. We also had the pleasure of enjoying Oisoro-Semrette, who now and then set aside her spindle to pay greater attention and then rolling over on her back with loud bursts of laughter. The governor's conversation constantly revealed a man full of kindness and good will. His generosity already had inclined us toward him, and his personable ways won us over. And that's the person on whom Oualda-Jésous, Detjach-Oubié's uncle, exacted such vicious vengeance!

Looking at him, we were overcome with silent compassion. It was impossible for us to forget his tragic fate.

Brave, ambitious, and with a courageous spirit, Ato-Ouessan had fought for a long time against Detjach-Oubié under the banner of Sabagadis, the former king of the Tigré. But with Sabagadis dead, he thought it useless to prolong the battle, and wishing, at least on his own behalf, to contribute to peace in the country, he went to the victor's camp where his surrender was accepted. That is where, in Oubié's camp, he saw Oisoro-Semrette for the first time. At that time Oisoro-Semrette must have been extremely beautiful. A multitude of officers, smitten with her charm, paid her homage and sought her hand. Oualda-Jésous surpassed them all in rank, courage, and esteem. His renown, his refined manner, his fortune, perhaps his jealous cruelty as well, seemed to have captivated and compelled the beautiful daughter of Gondar at the same time that they discouraged his rivals. Ato-Ouessan did not let himself be overwhelmed by the claims of Oualda-Jesous. Proud of his twenty years and his flattering reception by Detjach-Oubié, he headed straight for Oisoro-Semrette's home. The charming Amhara received him with a smile, asked him to sit down. Her undisguised pleasure was evident even in the eyes of the least perceptive observer.

A month later Ato-Ouessan married the beautiful Semrette, and brought her in triumph to the town of Adoua where he had been put in charge as compensation for surrendering.

When he heard about the marriage of his rival, Oualda-Jésous plunged into a violent rage. His pride wounded both as a prince and as a lover, he swore on his father's death that the wrong would be avenged. And his vengeance was cruel.

Barely a month after the wedding ceremony, Oualda-Jésous came secretly to Adoua. It was in the dark of night. He headed toward the governor's house, blocked all of the exits, crossed the inner courtyard, and followed by several dedicated men, he made it through to Ato-Ouessan's room. The young groom was asleep. Suddenly awakened, he saw vengeance close close by, vengeance rushing at him in Jésous' footsteps, terrifying, arousing his fury, and pouring bitter poison into his wounded heart. Ato-Ouessan recognized his rival. He lunged for his weapons. A useless effort! Caught unawares, in vain was he able to fend off the blows of his enemies, in vain could he compel them to admire his courage. Soon, after a struggle lasting almost ten minutes, betrayed by his own forces, overwhelmed by their number,

the unfortunate governor had to resort to the only way he could to disarm his rival. Falling on his knees, he begged forgiveness. But Oualda-Jésous hadn't come to pardon anyone. His heart was made of steel. He signaled to his soldiers. They up-ended Ato-Ouessan and pulled out his *taube*. Oualda-Jésous then drew his sword and bent over the victim like a quack surgeon or a butcher. A moment later, the governor of Adoua no longer could make him jealous. And though not really a widow, Oisoro-Semrette no longer had a bridegroom.

We went out of Ato-Ouessan's home on a Saturday, and we visited the market. Without a doubt the market of Adoua is the largest in the Tigré. The main things that you can get there are: wax, honey, butter, swords, spears, grain, and vegetables. You also see represented there all of the domestic animals of Abyssinia. Especially noticeable among them are donkeys, oxen, mules, goats, and sheep.

The medium of exchange, the *circulating medium*, for significant purchases consisted exclusively of Austian thalars, struck with the effigy of Maria Theresa. The thalers, to be acceptable, must meet certain indispensable conditions. All of the points on the queen's crown, as well as those on the clasp of her mantle, must be quite visible.

Furthermore, the letters S-F at the bottom of the effigy must not be effaced. If a single letter, or even a single point happens to be missing, the coin would be considered invalid and adamantly rejected. Nevertheless, at Gondar there are places to get rid of defective thalers. Most merchants accept them and absorb the loss of twenty to thirty percent. Then they bring them to Massawa where everyone accepts them at par, and in this way they realize a substantial profit.

To make small purchases, black pepper, *matab* or silken blue ribbon, fabric, and salt are usually used in Abyssinia. Fabric is especially sought after in the Tigré and salt beyond the Taccazé. The fabrics, which function as money, are the same ones that the natives use for their clothing.

The salt that is used for money is prism-shaped, three centimeters at the base and twenty-five in length. It comes from the country of the Taltals where there is an extremely rich mine, and from there it's distributed all over the southern part of Abyssinia to beyond the Nile or Abbay. The amount of salt equivalent to one thaler depends on its distance from the mine. It's larger the closer it is to the mine and where communications are easier.

The following are the costs of cakes of salt in some of the towns in Abyssinia:

Name of the town.	Distance to the mine.	Amount of salt for one thaler
Atsbi . .	25 leagues.	100 to 110
Adoua. .	40 "	50 to 70
Gondar	80 "	30 to 40
Dembetcha	100 "	15 to 25
Capital of Naréa . . .	180 "	10 to 12

Irregularities in the cakes of salt, differences in their volumes, the problem of adjusting the portions to the value of the object desired, cause endless disputes every day. To determine the point where this kind of money becomes inconvenient, it's enough to note that it's very heavy, that it's easily altered, and that nobody is obliged to accept it. So imagine the difficulties in making transactions. Suppose you have some salt, and you want grain or some *teff*. Nothing is easier than finding one or the other. But the seller with whom you're dealing doesn't want your salt. He has to have pepper or fabric. So you're on the run, and you go for hours on end to buy the merchandise that he requires. After a lot of trouble and a lot of searching, you finally obtain the intermediate commodity, or so-called money-articles, and return in all haste to the grain merchant.

He examines it. You feel lucky if he finds nothing wrong, even luckier if, while you were away searching, he hadn't already sold the merchandise that you had a pressing need to acquire.

Despite these peculiar obstacles to doing business, the markets in Abyssinian towns are centers for lots of trade. Every Saturday in Adoua there are about five or six thousand people busy buying and selling. Most often, truth to tell, they spend the whole day debating the modest value of a cake of salt.

The king takes advantage of these large gatherings to announce to the inhabitants, by means of town criers, the orders that he wishes to publicize, the penalties for disobedience, and in a word, all the news of interest to the country. Furthermore, it is in the markets that the guilty are subjected to corporal or capital punishment. The hope is that by performing corporal punishment in public, it will strike healthy fear into hearts and minds and prevent the recurrence of crime.

Unfortunately justice thrives on pain. People who are normally very mild-mannered get used to the sight of bloodshed in frightful executions, and more evil emerges from the remedy itself.

In the Tigré, and generally in all of Abyssinia, anyone who rebels against the king is mercilessly condemned to amputation of his left foot and right hand.

A few days after we arrived we watched one of these barbaric spectacles that the criminal code of the Tigré provides for. Two obscure chieftains of the Agamé had been convicted of taking up arms against Detjach-Oubié on behalf of the unfortunate family of Sabagadis, They were thirty to thirty-five years old. We saw them arriving, firmly striding toward the site of execution, resigned to their fate. The escort assigned to accompany them consisted of several soldiers, some on foot, the rest on horseback. They were laughing and joking as though they were on their way to a party. Cannibals in the South Seas don't display more savage glee when they dance around a sacrificial victim.

When the dreadful procession appeared in the marketplace, all business was immediately suspended. Men, women, and children rushed forward to get in front of the hapless martyrs. The tide swept us along and dropped us, so to speak, onto the dreaded site. The convicts were not late in gettting there. As soon as the executioner gave his orders, men armed with staves moved to hold back the crowd that had encircled the victims. He himself, helped by an assistant, or rather by an apprentice fifteen or sixteen years old, proceeded to inflict the punishment, starting with the youngest.

The chains were taken off the poor wretch, Two men tied his right arm tightly above the wrist with a leather strap and the left leg above the heel in order to prevent hemorrhage. When this procedure had been completed, the victim was stretched out on the ground face down, and five strong soldiers were assigned to hold him down. These various preparations lasted ten to twelve minutes. During this time the crowd continued to grow; women uttered groans, curious children struggled to slip up to the front row, and an emotionally charged throng, but nevertheless immobile as a population of statues, didn't miss a single one of the executioner's movements. This principal performer in the end drew from his belt a curved knife with a blade of fifteen or sixteen inches. He held the victim's leg by its dorsal surface, examined it for a moment with a surgeon's care, and plunged the blade into the flesh with a sure hand. Cutting the Achilles' tendon, opening up the fibular joint, disengaging the ankle-bone and the tibia, separating the foot from the leg, was all done inside of six minutes. Amputation of the hand was performed the same way in just as short a time.

When the executioner was finished with the first victim, he moved to the second one,

always cool and composed, like a practitioner demonstrating on a wax model in an amphitheater. Three quarters of an hour after the mutilation had begun, a grisly two feet and two hands were lying on the blood-covered grass. A pathetic sight! Next to these hands and feet detached from a living human being, the unfortunate criminals already doomed to die were convulsing in hideous pain, displaying their mutilated stumps to the heavens in calls for vengeance. Their howls mingled with the cries and sobs of their wives. Mournful, with tears in their eyes, they came with faltering steps to lavish their care on the victims and to dress their wounds. A few people, moved by compassion, took it on themselves to help them with this painful task. They replaced the leather ligature with another one made of cloth strips that were tied on tightly. A child about ten or twelve years old haphazardly threw the amputated feet and hands into a bag. The victims were placed on a litter and carefully carried underneath the portal of the Medani-Alem church.

The portal, open on all sides, was exposed to all the vagaries of the weather. That was the place where we got to see the wretched men again, about three o'clock at night.

A cold sweat drenched their faces. Their breath came with difficulty, and their contorted expressions betrayed their cruel suffering. Nevertheless, their minds remained sound, and they answered perfectly well each time that they were questioned.

When they saw us, they asked us a number of questions that our interpreter hastened to translate for us. These unfortunates were pleased with our visit. It seemed to them that it boded well for their recovery. When you have a compassionate heart, they said, heaven will heap blessings on you, and the angels will show you the way to good fortune.

We understood that we were very poor doctors, but convinced that a little solace for the spirit serves as balm for the body, we did our very best to gain their trust. We provided them with cloth bandages. Opium pills would be able to give them a moment's relief, and we hastened to administer a few to them. We noticed a slab over a burning fire that resembled a plate for baking bread. We thought we should recommend, through the intervention of our interpreter, the strictest possible diet. Prescriptions were useless. "Diet?" Saïd asked us, "So what do you expect them to eat?

Even a mouse couldn't find enough food here. As to that platter that you see, it will be used to roast the feet and hands of the condemned; they won't cook anything else there."

This cuisine from hell aroused our indignation. At first we didn't want to give any credit to our interpreter's grim joke. But it wasn't a joke. A priest in Medani-Alem vouched that the intention was real, so we had to believe both lines of evidence. This is a religious rite that is not the executioner's duty but rather the concern of friends of the condemned. His feet are grilled, his hands are grilled, to be preserved in a jar of salted butter. When he dies, the jar is buried with him. Later on, awakened by the sounds of the trumpet on Judgement Day, he will be able to find his limbs so that he can appear before the throne of the Eternal in the Valley of Josaphat.

As though these painful emotions were not enough for one day, we were about to undergo an even more grievous blow. We hardly had got back to our place when we saw a man come in who asked to speak to us. This person was the servant of Messrs. Petit and Dillon. Messrs. Petit and Dillon, explorers for our museum, had preceded us into Abyssinia by only a few months. Arriving in Adoua, our courageous countrymen immediately explored the town's surroundings.

Subsequently motivated by their love of science, they disappeared into the valley of the Mareb, to which they were drawn in the hope of acquiring treasures to add to our collection of natural history. But the expedition was dangerous at that time of year. They left right after the rainy season, just when the wet ground and stagnant water, contaminated by the heat, released noxious vapors along the river's edge. They were told that death lurked there, that the country folk themselves wouldn't dare venture there. They rejected that cowardly advice. They thought they were strong enough and so full of energy! They relied so much on their courage to triumph even over the malign forces of creation! And so they went on. Arriving with their attendants on the banks of the Mareb, they set up their camp in the infectious mist of the valley. Three days later they fell ill from intestinal distress, and several of them already were near death. What an unfortunate adventure! The messenger told us all the details, and his story deeply grieved us. To know that our countrymen were dying, to know that there was no one attending to them, and that they lacked even the essential necessities! Messrs. Bell and Rouget left without delay to be at their side, to help them, and to put our small pharmacy at their disposal.

As to ourselves, we had to remain where we were. Too many duties kept us in Adoua. Our work held us there until the middle of December. As soon we were free to go, we left the capital of the Tigré, and we went to visit the ruins of Axoum, which were only four leagues away.

SUMMARY of Chapter XV

Axoum. -- Description of the town and its ruins. -- *Hyamérite* inscription; its significance. -- Axoum's time of glory and power. -- This is a *guédam* town, in other words, holy -- The priests come to visit us.-- The different religious sects of Abyssinia. -- The books that are found in this country; their value. -- Arrival of Messrs. de Jacobis and Montuéri, Lazarist missionaries. -- M. de Jacobis is told by the king to lead an Abyssinian delegation to Egypt. -- Location of Axoum. -- Description of the province of Da-Mariam. -- Monastery of Maïbrasio; the monks; their life. -- Monkish hierarchy. -- Ignorance of the monks.

CHAPTER XV.

The town of Axoum is situated at the foot of a mountain, partially on the plain, partially in a narrow gorge, where in the shade of sycamores and olive trees, it has forgotten the days of its past splendor, Its name was once renowned in all of Ethiopia. At present, the entire town of Axoum consists of three or four hundred hovels, some of them clustered randomly, most of them scattered haphazardly. The church, supposedly the most beautiful one in Abyssinia, displays nothing remarkable. Imagine a huge block, a cube 35 meters long, by 16 wide and 14 in height, with a row of broken pedestals lined up in front of the main façade. One enters the temple on a grand staircase of twenty stairs

where the twelve lowest ones are no less than 50 to 55 meters long and are well preserved. A short distance from the church, on a large square, is a magnificent obelisk, which for more than twenty centuries has stood proudly pointing to the sky. This superb monolith is 80 feet high. Just considering its size and the courage required to raise it is astonishing. One is struck with wonder and admiration for man's ingenuity in coming to grips with the forces of nature. How could the ancients have been able to handle something of that size? It's doubtlessly a baffling question, a difficult problem to solve. The Abyssinians themselves had posed the question, and they came up with a convenient explanation; it was the intervention of the power of the Devil, who, they say, wanted to build a great tower to climb up to heaven.

Near this obelisk there are two others of equally remarkable work, but these are broken into several fragments. They lie on the ground, corroded by dust and the weather. A stream runs very close by, whose continuously spring-fed waters supply a small reservoir built during the middle of the fifteenth century by the bishop, or the *abouna* Samuel. The reservoir is located close to the ruins that constituted the former town. Two kilometers southeast of Axoum,

in a search for other relics of the ancient capital of the Axoumites, you won't find anything more than a pile of ruins, dominated by a grayish mound. This mound is supposed to be the tomb of Ménilek, the son of Solomon and the Queen of Sheba. [*Translator's note*: Ménilek, (or Menelik I), 10th cent. B.C., was the first Emperor of Ethiopia.] As to the ruins, they're just an unimposing collection of bricks or cut stones and hardly worth going the half-league to see them.

By contrast, east of the town, that which has survived since ancient times is much more interesting. In this direction, about twelve hundred meters along the road from Adoua, you will come across several stone altars as well as a small obelisk still standing upright on its base. This pointed pillar is twenty feet high and perfectly proportioned. At that same place they also showed us the stone with the Greek inscription on it that Salt had first translated for the academic world, and which made his expedition a success.

The remains of the throne and the caves that several travelers have talked about seemed to us to be hardly worth our attention. For our part, if we wanted exciting discoveries, we would add that we had found two inscriptions in the garden of a priest called Joannès: one in the *gheez* language, the other in the *hyémarite* language. The first holds little interest;

the second at least dates back to very remote antiquity. The latter is carved on a stone covered with dust, and is divided lengthwise into two almost equal fragments. The syllabic characters that it consists of seem to have been slightly altered. Nevertheless they are still quite legible.

So what are these letters in a mysterious language telling us? When does this inscription date from? Do its lines speak of some insignificant event, or are they meant to convey to future generations the victories of a sovereign who once had reigned in Axoum? The stone that knows the secret guards it too jealously. It will remain impenetrable until the day that the scholars Messrs. Fresnel and Rœdiger will have let fall the veil that still covers the hyémarite language.

In any case, the very existence of this monument in the heart of the country is most important. It establishes indisputably that the hyémarite language in a bygone time was in general use in Abyssinia, or at least in certain public documents, and was understood by literate people. Granting that, it can be concluded that Ethiopia and southern Arabia were formerly linked commercially, and that frequent connections must have been maintained for a long time between these two countries.

Couldn't it also be concluded that at the time the inscription that we are looking at was engraved, Abyssinia and southern Arabia were then a single empire, like the one in place in the year 327 A.D. under the reign of Aïzana and mentioned in the Greek inscription of Axoum?

This was under the rule of the Lagides, when the Red Sea became the center of great commercial activity, and Axoum attained the peak of its power and renown. Because of its location, the town was a natural warehouse for goods coming from India through the Arabian Sea, and then distributed either in the Isle of Méroë or in neighboring countries among people who always had eagerly sought them. Here in fact is the itinerary of this merchandise. Leaving Adulis on the coast, it crossed the Tigré, arrived at Axoum and then headed southwest, going successively through Kely, Mandeyr, the former capital of the Arab shepherds, and Naga or Mount Ardan, on the Isle of Méroë. It is possible to follow the ancient trade route along the ruins that today mark this once-flourishing line. At each of these points there are remains of temples, collapsed edifices, and eloquent stones that emphasize the sadness of each place and bear witness to their bygone prosperity.

Wars without end, wars between peoples, wars in the cities, wars of invasion and conquest, constantly have impoverished the country. They have frightened off trade and diverted the magnificent flow of wealth, that like a fertile river, had just made industry and the arts flourish in this part of Ethiopia.

Among all of the towns spread along the road from Adulis to Meroë, Axoum, despite its present poverty, is the only one whose fame has outlived its destruction. The Abyssinians still revere the ancient capital of the Axoumites. They look upon it as a *Guédam*, in other words a city placed under the protection of heaven. The district of Axoum is sacred within a radius of one kilometer. It is considered to be the most respected place of asylum in Abyssinia. A Galla chieftain [*Translator's note*: a pastoral tribe from south of Ethiopia] dared to violate it. But at the moment that his foot trod on the holy ground, the earth opened up, as the chronicles report, and suddenly closing again, it engulfed the profaner along with his escort. The priests never forget to tell travelers this religious legend, but they do forget to mention that in recent times Detjach-Oubié committed the same sacrilege without suffering a similar fate. His enemies had violated the sanctity of Axoum to test his wrath there. He came determined to get them out, plundered their shops,

and seized the arms that they had stockpiled there for the right moment to incite a general revolt.

It must be said, however, that if the walls of Axoum hadn't always been strong enough to protect against the anger or the avarice of an ambitious prince, the harshness of tyranny's power and violence generally ends at their foot. The oppressed, even the guilty, who can reach them with a touch of the hand, have a guarantee of life. Also, in spite of the impiety of which Detjach-Oubié has provided the unique example, Axoum's wall becomes in time of war a veritable general store where the wealth of Abyssinia flows in from all sides. The rich come there to secure their gold and precious possessions, the beggar his rags, the plowman his grain, and the soldier his arms that he keeps in reserve, The peace that reigns in the town has brought together a numerous population. In its surroundings the ground is carefully cultivated, and the villages are wealthier and better built than they are in the rest of the Tigré. Passing through the surrounding regions, at every step you will come across ancient groves full of thousands of birds. Having nothing to fear from humans, they don't flee at their approach. These peaceful inhabitants of the air also have the right of asylum. They are as sacred to the inhabitants as are the groves themselves,

and this benign superstition protects them from the cruel designs of the hunter.

In Axoum we lodged in a Muslim household. That did not prevent us from hosting a visit a few days later by several priests, among whom were Joannès, one of the leaders of the church, and Aba Kalemsis, the librarian of the town.

Our servants rose before them and greeted them with respect. We offered them carpets to sit on, and the conversation got under way without any other preliminaries. The discussion turned mainly on the history of Abyssinia, art in Europe, the Bible, the Gospel, and theology. Do we need to spell it all out? But Aba-Kalemsis and Joannès aside, the inadequacy of our visitors, without dismissing whatever abilities they had, gave us a mediocre picture of the Abyssinian clergy. Unhappily, this opinion was correct. Almost all of the theological disputes that during the time of Eutychès and Dioscore had torn apart the bosom of the Church still persist among the Abyssinian priests. The notorious dispute about the nature and the person of Christ has been preserved here with all of the intensity of a new issue. At the moment it divides the Abyssinian clergy into three sects,

and these three sects despise one another as much as the Protestants despise the Pope.

The first one, distributed mainly in the Tigré, accepts only one nature in Christ and is known as *Toado*.

The second sect, called *Cara*, believes that Christ has two natures. This sect prevails in the Amhara.

Finally, the last one, known as *Gabah,* recognizes three natures. They believe that the third originates in the regeneration of the son of God by the grace of baptism. This opinion is held mainly in the Choa.

The priests who belong to these sects spend their lives arguing and frequently bring their disputes before the throne. But alas! Where will this quarrelsome polemic end? Since the theories that these Abyssinian doctors of divinity argue about are not subject to any proof, they expatiate, become more ardent, and blind themselves even more. Light is always overcome much sooner at night, and what darkness is there like the ignorance of the Abyssinians on the subject of theology! Among the priests of Axoum who had come to inquire about our knowledge of doctrine, one seriously declared that the Holy Virgin died to ransom the souls of three hundred thousand sinners. Another one,

no less decisive, simply included Mohammed among the three hundred and eighteen Fathers who formed the Nicaean Council. That was presumptuous. Saïd, a Muslim of the old school, was our interpreter. It was far-fetched to see the strange face that had depicted the prophet suddenly transformed into a Christian bishop, He was indignant and turned red in the face, He forgot that he was not to speak or listen to anyone but ourselves. Without any further thought of conveying the heresy to us, there he was standing abruptly in the hallway, refuting it himself with furious energy. What a stream of eloquence! What fluency of words! Not the slightest pause, not even time for a breath between the beginning and the conclusion. Saïd's rhetoric poured from his mouth like burning lava; each of his unheard of arguments terrified the assembled scholars. Their faces all clouded over, and we began to fear that the clouds might produce thunderbolts. To prevent a storm we hastened to impose silence on our interpreter. The topic of conversation changed. One of us turned it to science and literature. We asked Aba-Kalemsis for information about the bibliography of the Tigré. Aba-Kalemsis, still stunned by our interpreter's blasphemies, seemed to debate within himself whether or not he should reply to us.

Perhaps he too was one of those who, keeping the truth close to his vest, hesitated to show his hand. The hope for compensation nevertheless overcame his hesitation. After a moment's reflection, he finally provided the information that we had requested.

Books in Abyssinia are divided into four major classes.

The first class includes the Old Testament and its various commentaries.

The second, all works related to the New Testament.

The third are books of the *Liks*, or accomplished masters, such as the Lives of the Saints.

Lastly, the fourth are books that deal with monasteries and the monastical profession.

Within each one of these four divisions, the Abyssinians distinguish among the works that are equal in value to the Bible and those that rank lower than the Holy Scriptures. The first ones are called *sinodos*, the second *aoualed*, meaning external or worldly. Neither one nor the other have any practical use, of course, and offer enormities that would confound the most committed belief.

Here is the list of the principal ones:

1. Tarik negous	History of the kings.
2. Senkessar.	Lives of the Saints.
3. Aragwi menlassawi. . .	)
4 Tickissus.	) Known as the books of the monks.
5. Tamat.	)
6. Kabra négous.	Glory of the kings.
7 Haimanot Abou. . . .	Authority of Church Fathers. This contains fragments from St, Cyrille and from St. Athanase.
8. Kedassié.	The Missal.
9. Doga.	Abyssinian hymns.
10. Sinodos.	Determination of the liturgy and the canon of the apostles.
11. Kodous Kirillos. . . .	Life of St. Cyrille.
12. Afa Work (*Bouche d'or*). . .	Life of St. Chrysostome.
13. Genset.	Form for burial of the deceased, found by Saint Helen.
14. Abou chakar.	A type of calendar.
15. Tamera Jésus.. . . .	Miracles of Jesus Christ.
16. Tabiba tabiban. . . .	Letter against evil spirits.
17. Glorgis walza amed. . . .	Teatise on geography.
18. Tamera Mariam. . . .	Miracles of the Holy Virgin.
19. Mazafa monakassat. . . .	Rules of the monasteries.
20. Ouadassi Mariam. . . .	In praise of Mary.
21. Gadela Georgis. . . .	)
22. Dillana Mariam. . . .	)
23. Gadela Samatal. . . .	)
24. Gadela Guebra Christos. . .	)
25, Etchi-Johanès. . . .	)
26. Sena Aihud.	)

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27. Dersana-Mikaël. . . .)
28. Dersana Medani Alem. . .)
29. Kinfali. . . . .)
30. Sefafa zedek. . . . .)
31. Sifa sellasi. . . . .)
32. Wadoti Amlak. . . .) All of these books merely contain miraculous
33. Guebra Hemamal. stories, preposterous legends,.and juvenile thoughts.
34. Kalamentos.)
35. Wazafa mistir.)
36. Erota Haimanot. . . .)
37. Zoma Dégua.)

These are the most important works found in Axoum. So just imagine the status of literature in the rest of the country, since this town is virtually the only one with anything resembling a library. All of these works are manuscripts copied very carefully on fine parchment. Regrettably their content doesn't match their appearance. Except for the Bible, except for the Code and the History of the Kings, not a single one of these treatises would be suitable either to form a center nor awaken a taste for the liberal arts. Besides, since there is no printer known in Abyssinia, and books there are rare, it's difficult to get a hold of any of them, thank God! What a misfortune it would be to distribute such nonsense! An Abyssinian who can't read is merely ignorant; but if he were to read he would become thickheaded.

Aba-Kalemsis and his colleagues stayed with us for almost an hour. We gave them several presents, and when they left they promised to come and see us again.

It was January the 10th, the day of a great holiday in Axoum. For a long time we had wanted to attend the religious ceremonies of the Abyssinians. This was a fine opportunity, and in our curiosity we quickly took advantage of it. We were in the church very early in the morning. When we entered, the governor of the town offered to seat us, and we sat down next to him among his soldiers.

To be truthful, we must admit that the piety of the Abyssinians seemed less than uplifting. This assemblage of the faithful was a crowd of men and women who were chatting and joking among themselves. For the Abyssinians the House of the Lord is that of an indulgent father whose kindness doesn't even inspire enough respect to arouse much love. The talking filled the church with noise. Nobody kept quiet, no one gave a thought to submitting his heart to God, but nevertheless everything indicated that the service had begun. The prayerbooks were open, the priests were clothed in their priestly vestments. Three or four choristers full-throatedly howled their hymns in the *gheez* language. While on all sides there were censers curving gracefully in the midst of a perfumed cloud, already quite opaque, we could see several priests leaping and striking the ground rhythmically with their long crosiers. They waved in the air a small old-fasioned instrument that they presented to one another when they approached their neighbors' faces as though offering to have them kiss it. Wasn't that the sistrum [*Translator's note:* an ancient Egyptian musical instrument] of old, one of the most sacred symbols of the goddess Isis, the sistrum carried by Egyptian priests during the celebration of their mysteries? The effect that this unexpected spectacle had on us was hard to describe.

Our imaginations, flying back in time, took us back thirty centuries ago. We imagined that we saw the Levites of Israel with instruments taken from hierophants [*Translator's note*: priests of ancient Greece] dancing in front of the holy ark.

We left the church. As much as several hours had passed when two Europeans stopped at the door of our house claiming the sacred right of hospitality. Two brethren from Europe! How welcome they were! Everything we owned was theirs. Let them enter, and may God bless their coming and again their going!

The blessing that we invoked on their behalf would surely be reciprocated, because we were welcoming Messrs. de Jacobis and Montueri, both Lazarite missionaries sent to Abyssinia by the college for Propagation of the Faith.

M. Montueri is about forty years old, full of enthusiasm, courage, and perseverance. His virtues and his gentle nature drew the admiration of everyone in the Tigré.

M. de Jacobis, former confessor to the queen of Naples, is the apostolic prefect of the missions in Ethiopia. All the fine qualities of an evangelical were present in this one person. There is no other missionary who to the same degree combines eagerness with patience and inexhaustible kind-heartedness with a resolute strength of character.

He accepts all of his duties everywhere and accomplishes them without a rest. M. de Jacobis seems destined to be the apostle of Abyssinia. It's been barely six months since this worthy missionary landed at Massawa, and he already can count on many influential friends in the Tigré. Even Detjach-Oubié himself held a special affection for M. de Jacobis. He often took the wisdom of his advice, and at the time we speak, he summoned the apostolic prefect to entrust him with an important mission. Here is the situation:

After the conquest of the Tigré, which he had just accomplished when we arrived in Abyssinia, Detjach-Oubié had decided to cross the Taccazé, to take the war into Amhara and to engage the army of Ras-Ali, the chief who ruled in Gondar, and to crown himself in the capital of Abyssinia instead of that prince. Detjach-Oubié's plans were no secret to anyone. This prince proudly proclaimed himself the enemy of the Ras of Gondar, and he pressed ahead with preparations for the war with vigor proportional to the size of his plan. Leaving nothing to chance, at least for what he could make off with himself, either by deceit or by determination, he placed governors dedicated to him in charge of each province, he purchased arms, he increased the numbers of his troops and generously gave away money to create allies,

And while he made it his job to discredit Ras-Ali as a bad Christian, a Muslim at heart and neglectful of religious interests, he applied himself, using every possible means, to win the trust of the monks and the priests. After ten years of neglect and oversight, he suddenly remembered that Abyssinia had no bishop. Without a bishop, in the absence of an *abouna* for ordination, most of the churches lacked curates. He immediately levied an enormous contribution, appointed envoys and determined that these envoys would go to Egypt to look for a bishop in earnest. According to the country's laws the *abouna* must be a white man of Coptic origin and appointed by the Greek patriarch residing in Cairo. The money was collected within a few days, and the delegation was ready to set out. But who was going to show them the way? Who would be the one to clear up difficulties along the road, and protect them against the fanaticism of the Muslim populations of the Arabian Gulf? The question arose during the prince's council, and the name of M. de Jacobis already was on everyone's lips. He was generally viewed as the one most suitable to fulfill this mission, and to arrange a favorable reception for the Abyssinian envoys by the Turkish governors. So Detjach-Oubié directed the Lazarite missionary

to protect his delegation while conferring his authority on them. One has to know M. de Jacobis, one must know his entirely trustworthy nature, his zeal and his scrupulous generosity, to understand in this situation what a delicate and difficult position the king of the Tigré had put him in. What an assignment to take on! But by doing that the courageous missionary would expose himself to all sorts of malign accusations of slander. He especially had to fear seeing the success of his preaching compromised by the accession of a schismatic bishop who at any moment could arouse the religious fervor of the country's priests and provoke their fanaticism against the doctrines of Rome. On the other hand, to answer with a refusal would wound the king's self-respect and awaken a hidden discontent whose consequences sooner or later would fall upon the Catholic missionaries; perhaps in the end immediate banishment from Abyssinia. What an account to render before God! Put between a rock and a hard-place, M. de Jacobis held back a long time before declaring himself. Finally, after several days reflection, and convinced that a refusal, risky for his brethren, wouldn't prevent even Detjach-Oubié from calling upon a Coptic bishop, he appeared before the prince and announced to him that he was ready to go, but under the essential condition

that when he returned the Lazarites would be allowed to build a Catholic church in the Samen. And that the heads of the delegation, after their arrival in Cairo, would go on from there as far as Rome in order to pay their respects to the ruling pope, thereby bearing witness in person to His Holiness the good intentions of their master in regard to the Catholic faith.

Detjach-Oubié promised everything without hesitating, and a few days later M. de Jacobis set off for Massawa.

It's hardly likely that the Abyssinians' trip lasted more than six months. The time slipped by and the war went on to unleash its fury in northern Abyssinia. No longer any peaceful provinces; no longer any open roads, violence and murder everywhere, no security anywhere. With this grim outlook, we understood that we didn't have a moment to lose. Working anxiously, we actively undertook to bring in our harvest before the storm broke.

At the outset, we mainly set about establishing the location of Axoum. The latitude of the town, determined by five series of circummeridianal elevations of the sun, is 14^{o} 6' 55".

Its longitude, deduced by observing three phases of the lunar eclipse of February 6, 1841, and from three observations of immersion or of emersion of the first moon of Jupiter, is 36° 23' 40" east of the Paris meridian.

The town is built on a plateau about 2,170 meters above sea level.

During our stay in the ancient capital of the Axoumites, we also undertook the triangulation of the small province of Da-Mariam. To this end we took care to measure, in the plain extending southward from the town, a base of 549 meters in length whose border from north to east formed an angle of 153° 7' with the local meridian.

Several days later, in the middle of this base we measured out a second one 2,566 meters long, upon which we applied a small triangulation that we extended around the town at a radius of three leagues. We intended to continue this work; it would definitely have yielded good results. Unfortunately the mistrust of the inhabitants, difficulties in constructing signals, and the obstacles that we encountered every step of the way forced us to abandon this procedure

and to replace it with more expedient methods. We will reveal these methods in the third volume.

Nevertheless, the many excursions that we had to make in the area around Axoum provided us with the opportunity to visit the different districts of the province of Da-Mariam and to learn about their resources and agricultural products. There is no province in Abyssinia that is more fertile nor better cultivated. Barley, wheat, *teff*, *dagoussa*, all grow as desired. Also, almost all of the vegetables grown in Europe are there, but fruit trees are completely absent. Still, we can add that in March at *Maï-Brasio* we ate some excellent grapes, certain proof that vineyards could prosper at this latitude.

Maï-Brasio is a district located toward the southwest of the province of Da-Mariam. The large monastery to be seen there and one where we had stayed for several days is greatly venerated in the country. A small cross, placed above the entranceway, indicates the religious nature of the establishment. It consists of several conical huts that lean against a small grove of tall, fully-grown trees, remarkable for the size of their trunks and their luxuriant foliage.

Thousands of birds with brilliant plumage flutter from branch to branch, and turn the grove into a delightful paradise during the time when the heat of the day imposes an intolerable burden on the gentle coolness of its shade.

About thirty monks live in the Maï-Brasio monastery. Their monastic order, we were told, is that of Saint Basil. Their garb couln't be simpler: a pair of drawers, a white skullcap to cover the head, and a thick cloth used as a coat. The compensation they receive varies according to the importance of the functions that they fulfill. Here is the hierarchy of their rank:

The *meumerié*	. .	or Superior
The *likared*	. .	in charge of supervising carrying out orders.
The *meggabi*	. . .	in charge of minding the inventories of materials.
The goab meggabi	.	fulfills the meggabi's functions as an assistant.
The *teleché*	. .	in charge of food and cooking.
The *aragwi*	. .	or monks.

The monks make no vows, but they undertake among themselves to be chaste, needy, and devoted to religious duties. Overall, their life seems harder than that of monks in Europe. Every day they arise at one o'clock in the morning to chant the Psalms of David and remain praying until sunrise. They have only two meals a day,

one in the morning, the other in the evening, that are always austere. Like other Abyssinians, they observe three long Lenten periods and count more than two hundred days of abstinence during which they eat only unseasoned vegetables. For almost the entire year they live on cabbage, lentils, beans, and *chiro,* which is a puree of chick-peas, onions, and red pepper. They are never given fish, and never any cheese. Their bread is a biscuit of unleavened *teff* or barley. They live in a completely barren hut made of branches, all of them sleeping on cowhide with no mattress. Everyone, except for the superior, tills the soil by hand, or performs some useful craft in the monastery. Finally, as though this weren't enough in their harsh life, on the eve of major holidays, if one is to believe the reports of the priests of Axoum, they perform eight hundred adorations a day, that is between sunrise and sunset they prostrate themselves eight hundred times with their faces to the ground, and get up again eight hundred times while reciting prayers.

This ascetic life, devoted entirely to religious activities and to cultivation of the soil, is hardly suited to developing the mind. Also, ignorance apparently is as engrained in the monastery of Maï-Brasio as it is in the royal residence. Most of the monks can neither read nor write.

Strangers even to the history of religion, they confuse the Old and New Testaments, Jesus-Christ and Moses, and spend their leisure time talking about miracles, saints, the virtues of Tecla-Haimanot and the merits of their monastic profession. To complete the picture, we will add just one characteristic feature:

On March 12, we were relaxing inside a straw shed, busy writing up some notes, when Saïd suddenly entered and told us that one of the monks wanted to talk to us. Could it have been the *meumerié* ? No, it wasn't he. Never mind, let him come in. The monk entered, greeted us respectfully, and sat down on the ground next to us. His expression appeared calm and relaxed, and the sparkle in his eyes was tempered more by the severity of the cloister than by the gravity of age. He wasn't over forty. Hardly had he sat down, than he launched into lofty praise of the white race, lavishly extending it to include the superiority of Europeans. After this suggestive introduction, he concluded, just as we had feared, by asking us for a gift and furthermore calling upon heaven to reward us for it. We immediately insisted that we had nothing, absolutely nothing. Our intensity left him unmoved. He lowered his eyes without a reply, like one subdued and not letting a single word oppose the defeat of his spirit.

Nevertheless, after a moment's silence, he resumed the conversation and ended by calmly revealing for a second time the purpose of his visit. How could we refuse to listen to him? He was so charmingly naive, there was so much gentleness in his eyes, in his expression! We listened to him attentively until his conclusion, but we hardly expected the end of his discourse. How extraordinary it was! This exceptional man had just asked us for a cure for *ignorance.* When this great word was spoken, we avoided looking at one another for fear of unintentionally bursting out laughing. Alas! The disease was real, and the plague seemed to us to be incurable. It required a miracle, and we didn't feel capable of replacing God's divine intervention. Still, one of us advised him to learn how to read and to contemplate some good books. The monk promised to follow our advice and then withdrew, respectfully kissing our hands. Oh Augustine! Oh Cyril! Oh Athanasius! What will you say when you cast your eyes upon your pathetic successors? And thou, divine apostle of the church, oh Paul! Do you not have a final epistle for this deplorable Church of Abyssinia!

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SUMMARY of Chapter XVI

Departure from Mai-Brasio for the Chiré. -- Village of Addissi-Addi; departure from this village, -- Abyssinians do not eat animals designated unclean by Mosaic law. -- The Ferfera; course and direction of the river. -- Masses of syenite found there. -- Dahamo peak. -- Encounter with a leopard. -- A rest under a grove of palm trees. -- Our arrival in Aber-Semmaka, the home of M. Petit. -- Our countryman's condition. -- Grief among the Abyssinians. -- Departure from Aber-Semmaka. -- Our arrival in Adde-Casti, -- A banana tree. -- Location of Adde-Casti. -- Geography of the Chiré. -- The Changallas. -- Nature of the inhabitants of the Chiré. -- The *choum* of Adde-Casti steals our gunpowder; he is judged and condemned by the residents of the village that he governs.

CHAPTER XVI.

In Maï-Brasio we got a letter from M. Rouget that broke our heart. After having told us of M. Bell's departure, who had left us briefly to visit the source of the Nile, our traveling companion informed us of a disastrous event: M. Dillon had perished along with four of his servants. M. Rouget had interred the five bodies, and in bringing this sad letter to a close, he told us that Doctor Petit himself was close to death. We were obsessed by this grievous news the whole night long. Our unfortunate countryman often had expressed the desire to see us. We decided at once to leave Maï-Brasio and to hurry to help him.

On March 13 we quickly left for the Chiré. After an hour we got to the crest of the mountains extending between the Mareb and the Taccazé. There our small contingent passed the hamlet of *Okro* on our left, close to which could be seen the source of the *Maï-Mogo* that flows southward. We followed the fertile banks of this stream for a distance of two kilometers. Finally, at two o'clock we came to rest in the village of *Addissi-Addi.*

Addissi-Addi welcomed us. The *choum* made a point of preparing a magnificent reception for us. He placed a spacious home at our disposal, and liberally provided for our sustenance. He sent us bread, beer, mutton, and other tasty provisions in abundance.

Saïd had left for Axoum to take our baggage there. We spent the day in Addissi-Addi awaiting his return. The following morning at sunrise we were back on the road toward the southwest.

Two hours from Addissi-Addi we crossed wide prairies where numerous cattle were going by, herded by several children.

After climbing a few hills, our caravan came across a disrupted countryside covered with broken branches, where we found several hares browsing peacefully and taking no notice of our approach. A single shot brought one of them down. The hunter among us pickrd it up and skinned it. So we had something for an early lunch! But alas no! We learned at that time that Abyssinians won't eat any animal declared to be unclean by the law of Moses. Clearly Abyssinian cuisine would improve on orthodoxy.

At eight o'clock our small caravan entered a narrow pass formed by mountains of volcanic orogin. At eleven o'clock we arrived at a plateau that overlooks the valley of the *Ferfera*; after several minutes we came to rest on the banks of that river. The Ferfera is a very fast stream, 10^{m} to 15^{m} wide. Its source lies in the mountains that border the province of Zahna to the north. Several tributaries flow into it, both on the right bank as well as on the left, and it empties into the Taccazé east of *Tchellatchekenné* after running fourteen to fifteen leagues. This watercourse is not marked on any map. The valley through which it flows is extremely deep and narrow. It is covered with tall forest trees with foliage displaying all shades of delightfully blended greenery.

On the riverbank lie blocks of syenite of several thousand cubic meters. These gigantic blocks have separated from the main bed and appear to have been detached by some natural upheaval. At the bottom of the ravine the mountain didn't break up into rocks, but in the upper part it has degraded to the extent that foot travelers have been able to forge a pathway through it. Veins of crystallized quartz four or five inches thick appear in it, from which we have taken a few samples.

Our caravan took almost an hour to cross this small valley of the Ferfera. After climbing the steep bank on the other side, we found ourselves on a vast plain covered by small hills where there was a very rich iron mine exploited by the inhabitants using the Catalonian method [*Translator's note:* heating iron ore to produce metallic iron]. This plain is part of the tertiary system. To its north it is overlooked by the Dahamo, the highest mountain in the area. From the summit of the Dahamo, the view covers a circle with a radius of more than sixty leagues. Surveying it freely, one's glance settles at will upon the rugged sides of the Samen, on the peak of Chelloda close to Adoua, on the vast plain of the Chiré, and upon a major part of the slopes and hillocks that separate the watershed of the Mareb from that of the Taccazé.

With its richness, arrangement, and the variety of detail to be seen, this view is one of the finest possible anywhere.

Half an hour from Dahamo we had a totally unexpected encounter. There was a magnificent leopard striding along slowly and majestically. She came out of a thicket ten steps to one side of us, and her path crossed ours. When she reached our level, she turned her head toward us as though to greet us and stared at us, unsurprised and without anger. Our small caravan stopped respectfully to yield her the right-of-way. The leopard continued on, swishing her spotted sides with her long tail. When it had gone on, we peacefully resumed our route. The encounter was so unexpected that it hadn't even occurred to us to begin the engagement with gunshots.

After three hours we rested on the bank of the *Gorgora-Laham.* We sat down in the shade of a cluster of palm trees. Over our heads there was a rounded plume of their fronds, and we had them again at our feet where the clear, transparent water reflected them in a diamond mirror. In Abyssinia palm trees are also found at an altitude of 2,000 meters, but their fruit never reaches maturity.

We resumed our journey at half-past three. Not much further,

our caravan crossed a deep ravine shaded by magnificent mimosas. On our left we passed the hamlet of *Beless* and pastures irrigated by small streams that all emptied into the Taccazé. At last, after having crossed the Marakat ravine, we came to a stop at the hamlet of *Aber-Semmaka*, the residence of M. Petit.

At the moment we arrived, M. Rouget, our traveling companion, was at the door of our countryman's home. One by one we fell on him and held him in a long embrace. We would not, nor could we, separate ourselves from him. It seemed to us like centuries since he had left us, Nevertheless, after this first exuberance, we almost regretted our joy. "And M. Petit, how is he doing?" we inquired with worry. ---Poorly, very poorly! M. Rouget answered, lowering his voice. The fever is consuming him and has wasted him to the bone. I'm afraid I'm not wrong; I don't believe he has more than eight days to live. Still, come inside and you can judge for yourselves. It will be a blessing for him to hold your hands. But don't say a word about M. Dillon! Each time his name is mentioned, his eyes fill with tears, and a moment later he slips into a deathly faint. The day before yesterday I held him in an unconscious state for a long time; I watched him almost expire in my arms."

M.Rouget went ahead of us. We followed in silence, and we entered a small courtyard where there were three houses of different sizes covered in straw. The largest one belonged to our unfortunate countryman. One house! It frightened us as though it were a tomb. No windows, not a spot of furniture. In the middle was a hole dug into the ground so it could be used as a stove. Opposite the door, set upon a stone, was the bottom of a jug filled with butter. It contained a cotton wick that as it burned gave out a pale, constantly flickering light. On the right were enormous bundles of dried plants. To the left, a tanned cowhide was stretched out over several handfuls of straw; that was the sickbed where M. Petit was wasting away. It was upon that crude bed that the hapless traveler had been struggling for a month against an unrelenting disease, and fought against death for the little life that was still left to him. He was no longer a person; he was a ghost. Seeing him so pale, so weak, so thin, so broken, our hearts were wrenched with sadness and pity. Nevertheless our faces expressed only affectionate compassion. We took his hand; we spoke to him of hope and a cure. France was waiting for him, and M. Lefèvre was soon to bring him home to France. "Oh France, he repeated, to return to France! To see our beloved country again!

But something inside me tells me that I never will embrace my parents again." As he pronounced these final words, his head was heavy and it slowly fell upon a pile of clothes that he used as a pillow, his eyes flooded with tears, and he lay for more than half an hour unable to utter a single word. We spent the entire evening by his side trying to distract him, but our fatigue and our emotions made us wish for some rest; and the patient himself urged us to get some sleep. M. Rouget had established himself as the major-domo in this house that had no chief. He called on Echeuber, our groom, and ordered him to prepare a bed for us. "But prepare it where? - In the hut that M. Dillon had occupied." Echeuber heard it well enough; but still he made no move. He stood surprised and petrified, with a stupefied expression on his face, which was proof that he had indeed heard it. "Didn't you understand, Echeuber? -- Yes indeed I did, *Gaëtana,* the child replied. But you can't sleep in that house. -- And why can't we sleep there? -- Because if you go to bed there, the spirit of M.Dillon will come to reproach you for having taken over his lodgings, and you won't be able get any shuteye the whole night. -- Relax; if M. Dillon were alive, as we wish he were,

we would offer him half of his lodging." Echeuber didn't want to contradict us, but he didn't seem convinced. So he took two cowhides, and with a thoroughly anguished expression on his face he quickly spread them out on the floor of the hut and took off running as though pursued by the devil himself. Despite his predictions, our eyelids soon closed in sleep, and if the traveler's spirit did return to his hut, it was without a doubt to quietly assure our rest.

The following morning we suddenly were awakened by a loud noise. We listened closely; there was crying, sobbing, and wailing. Nothing violent nor forbidding. A painful thought went through us like a knife in our hearts; M.Petit was at the point of death, M. Petit was dying, perhaps he was already dead!

Saïd came into our hut. We searched his eyes. Saïd's face was calm and serene. He came looking for a gun to go hunting. But those cries? That moaning? "Don't worry, the interpreter answered us calmly, those are the household staff mourning the death of M. Dillon." In fact, M. Petit's sevants had arisen very early. They had come to awaken our own and to invite them to join a small, tearful gathering.

They all had come together under a tree at the entrance to the village. You could see them from here; the rising sun lit up the scene.

One of the speakers praised the courage and the kindness of our unfortunate countryman; sobs and moans emerged at once from every breast; they were followed abruptly by a deep silence. Again, another leader raised his voice, and once more a new eulogy for the dead man stirred up the chorus of lamentations. But this time the anguish instantly rose to a frenzy. Some pounded the ground with their feet as a sign of despair. Others, bent over, their fingers contorted, were weighed down with grief as though it were a burden too heavy to bear. The latter, tearing their hair, reproached heaven for its cruelty; the former wiped their eyes on their sleeves as tears ran down their face. The plaintive wailing of children, cries of despair and rage. It was a strange sound; the name of the unfortunate M. Dillon was heard from time to time in its midst, repeated among moving echos.

Take yourselves back forty centuries, and you will see frescoes on the tombs at Thebes come alive: servants and slaves weeping over the burial of their masters.

It must be said that this scene, renewed every morning, revealed a great feeling of sadness. Many of these people loved M. Dillon very much. They missed him deeply, which was his most outstanding tribute. In their grief they found tears, expressions, actions, the most sincere words, and they always were able to share with others the anguish of their distress. Two of them in particular, Beyro and Tacho, displayed the sorrow in their hearts up front; we noticed broad scars on their temples, dug by their fingernails on the day that M. Dillon died.

Fortunately for M. Petit, he avoided all the fears and did not provide the opportunity for the same kinds of devotion. For fifteen days his health had improved hour by hour. We took leave of him as soon as we saw that he was out of danger, and we went to settle down in Adde-Casti to continue our work.

Adde-Casti is a hamlet located in the district of *Tembela*. It consists of several huts of stone or of branches grouped at the top of a slope overlooked on its north side by the summit of Kedaroua. If you climb to the top of Kedaroua, your view will include the entire plain of the Chiré. East of the village there flows a small, confined stream whose waters feed into the Taccazé.

The valley of this stream is shaded by wild bushes, palm trees, mimosas, and huge sycamores which interlace their branches to form a vault of greenery that is not penetrated by the sun's rays. In that spot we saw for the first time a tree, or rather a majestic plant, whose growth must have caught the attention of all Abyssinians. We can talk about the *musa*, or banana tree. This plant grows in the wild in the Chiré, and *El Makrisy* identifies it as one of the useful plants of Ifat, a province of Choa. It grows thirty or forty feet high. The trunk is crowned by about ten leaves that fit into one another and that come to a point. Each leaf is approximately fifteen feet long by three feet wide. We have not been able to obtain either the flower nor the fruit from this plant. Furthermore we won't resolve the question of whether this banana tree is the banana tree with long fruit, *musa paradisica*, or whether it constitutes a new species. Whichever it is, the banana tree with long fruit, which enriches the hot and humid valleys of New Spain [*Translator's note:* A vast territory of Spanish colonial possessions in Mexico, Central America, and the Caribbean] could very successfully be cultivated in Abyssinia. It would thrive very well on the banks of the Mareb, in the *colla* or low country, or everywhere that the thermometer registers high temperatures.

Among all of the plants in the world, this could be the one which produces the largest amount of nutritive material within a small land area,. In some countries it replaces and even exceeds that of gramineous cereals. This plant is so valuable that some peoples have made it a kind of object of reverence. Can its importance be judged more precisely? In New Spain, one hundred meters squared of land, containing thirty to forty stalks of banana plants yield, on a yearly basis of course, more than 2,000 kilograms of food. This plant's yield compared to that of wheat is about 133 to 1. And note that the banana tree needs little care; a few strokes of the pickaxe, that's all the work it requires. And what a fortune for the country that possesses this precious plant! Hasn't prudent Mother Nature apparently provided the Abyssinians with a remedy for their all-too-frequent famines, the inevitable consequence of the distressing social conditions that oppress them?

Since we had no reference point in the Chiré, we spent part of February astronomically determining the location of Adde-Casti.

The latitude of this village, determined by observation of seven series of circummeridian elevations of the sun, is 13° 58' 3". 6.;

Its longitude, deduced by observing the passage of 7th of *Taurus* beneath the non-illuminated portion of the moon's disk, is 35° 58' 13", 5 east of the Paris meridian.

The distance from Adde-Casti to the summit of Kedaroua is 2,027 meters. This line forms an angle of 90° 58' 50" with the local meridian from the north toward the east, and with the magnetic meridian an angle of 16° 12' to the west. This causes a variation in the compass of 6° 14' to the west.

Our stay in Adde-Casti lasted two months; two months during which we went through the principal districts of the Chiré, that of Bahra, of Seleklaga, of Coyeta, of Adde-Omfito, of Tembela, of Devra-Abbay, of Asgadé, and of Add'Iabo, to study that way the geography of the Chiré which is little known.

That province is bordered on the south by the Taccazé, on the east by the provinces of Da-Mariam and Zahna, on its north side touching the district of Zaguer, and on the west side a desert several leagues wide that separates it from the Changallas blacks. Its area is about a hundred twenty square leagues. It forms a plain at an elevation of 1,800 meters above sea level, cut at intervals by deep ravines,

and crossed from the northeast to the southwest by a mountain chain that separates the waters of the Taccazé from those of the Mareb. This plain forms part of the tertiary layer. Before reaching the Taccazé, it ends abruptly in an uneven slope; from that point as far as the river, over an average length of two leagues, the uneven ground swells up, flattens down, and displays a multitude of hillocks that bump into, crowd, and cross one another in every direction. These hillocks are full of schists. Looking at the schists, the layer had been pushed up almost vertically by volcanic rocks that had crossed them through and through.

At the time that Bruce explored Abyssinia, the capital of the Chiré was a town of the same name that the famous traveler had described in detail. This town, located at 14° 4' north latitude and 35° 40' east of the Paris meridian, no longer exists today. We even can state that, except for Devra-Abbay, that there isn't a single inhabited or habitable place in the Chiré that could be called a town. Hamlets are all that can be seen there, and these hamlets still are formed of miserable huts that the proprietors put together in a few days. After the cabins had been put up, sometimes a fever struck; smallpox had just hit the growing hamlet.

All of the inhabitants leave right away. They move out, they go elsewhere, choose another residence, and so now there is a village remaining where there is only wild grass still around. These weeds, which grow everywhere in the Chiré, indicate fertile soil, but this fertility remains unproductive. The major part of the land lies fallow or is poorly cultivated. Nevertheless, substantial amounts of teff, dagoussa, wheat, broad beans, kidney beans, lentils, onions, and several other kinds of vegetables are harvested. Barley is found in the canton of Koyéta, where there is very high ground. On the other hand, sorghum, cotton, and indigo grow on the banks of the Taccazé where the heat is favorable.

Fruit trees are less numerous. Date, orange, and lemon trees are the only ones that we have seen there; furthermore, the inhabitants don't take any care of them. We can add that on the banks of the Taccazé there are many species of trees for lumber and construction that Abyssinia could use one day, if it ever wants to enjoy the benefits of European industry. We will mainly mention the mimosa, the ebony tree, the tamarind, and several unknown species of sycamores whose majestic bearing

and magnificent display inspire ones admiration.

From the frontier of the Tigré as far as the Nile, vegetation on the banks of the Taccazé displays unparalleled splendor. But traveling westward across the plateau of the Chiré, having left Devra-Abbay after several hours on foot one arrives in utterly desolate country, the result of incursions by the Changallas. The Changallas are fierce blacks living in the wild between Nubia and Abyssinia, who harass the routes that lead from the Tigré into the Nile valley, to a point where neither a traveler nor a native caravan dare to venture there. Thus the country they inhabit has never been visited. However it should be, because it is widely rumored that there are extensive ruins there, the remains of former villages indicating a developed civilization.

To protect themselves from these ferocious neighbors, the Abyssinians of the Chiré found that leaving the area desolate formed the best barrier against their plunder. Over a distance of several leagues, all of the land west of the Chiré frontier had been abandoned by its inhabitants. There is not a single village to be seen, not even one house. This wide area is a refuge of lions and elephants, A dreadful outpost,

but it never stops the fearless incursions of the Changallas.

Their rapaciousness, the deadly plagues, the relentless wars, make the western part of this province one of the most wretched places in Abyssinia. However, and this is worth noting, the misery of the inhabitants hasn't embittered their gentleness of spirit. Simple and good-natured, they welcome foreigners, Everywhere that we stayed among them they brought us abundant provisions. We found that they always behaved generously. In Adde-Casti, where we lived for fifty days, they had so much confidence in us that they came to us to ask us to settle their disputes. On one day they didn't even hesitate to censure their *choum* who had committed a theft detrimental to us. But the incident was so unusual that we will describe it now in some detail.

When we went to get settled in the district of Tembela, we were visited by several *choums*. The *choum* Aylo, who was in command at Adde-Casti, came to see us as the others had done and graciously invited us to set up our residence within his domain. Aylo was a kid of 15 or 16 whose father had played a part in the war of Sabagadis.

His compensation amounted to merely a few fabrics that he levied on the inhabitants of his village. Moreover, his penury got to the point where he couldn't even purchase a mule. But in Abyssinia nobility of bloodline is not lost through poverty, and the *choum* Aylo, proud of his origin, did not cloak himself in his robe with less pride. He was a very minor chief who put on all the airs of royalty. Gentle and affable besides, had he wanted to extol the importance of his command, we can do him the justice that he would govern his estates with the greatest moderation.

Convinced by his winning words, we arrived in Adde-Casti. The *choum* Aylo welcomed us most cordially. By his order, bread was bought for us, beer in abundance, and a cabin was placed at our disposal where we spent the night. The following morning Aylo came to pay us a visit, preceded by a servant who proudly bore his master's spear and shield. He hardly had set foot on the threshold of our residence when he uttered a cry of admiration; he had just seen our guns and our sabers. "How fortunate to be one to possess such weapons!" he cried, " Travel all over Abyssinia, come and go as you wish, and you have nothing to fear. What chief would be bold enough to challenge you?

What soldier would be foolish enough to take you on?" That day his visit lasted three hours. He scrutinized our pipes, our watches, our cases, our instruments, and when we showed him an object that he had not yet seen, he seized it eagerly, turned it over and over in his hands twenty times, sadly gave it back to us and each time asked us if we couldn't make one just like it for him. You can guess our reply. He then sighed deeply, and told us that he had expected better of our abilities. What could we do? We had neglected to learn the trade of a goldsmith or that of a mechanic before travelling to Abyssinia. Nevertheless, to diminish a little the regrets of the young *choum* and to restore ourselves somewhat in his esteem, one of us hastened to offer him various objects that he eagerly seemed to desire: two cords of silk, a piece of red cloth, two drinking glasses, and a tempting snuff-box costing twenty-five centimes. Delight and ecstasy ensued. Aylo effusively kissed the hand that had presented him with such fine objects. He carried off our gifts and assured us that henceforth we were his best friends. He in fact proved it by the constancy of his visits. From then on, the young *choum* seemed unable to be without us;

he came and went and came back again the same day. However, after a week had gone by, there was something unusual: we had not fired a single shot, but nevertheless our gunpowder had disappeared. Several completely sealed packets had been opened. Others were broken into, and one or two were half empty. In an attempt to account for this bizarre development, we called on Echeuber and Faratch. Right away each of them protested their innocence. They swore by the dead body of Detjach-Oubié that they had not touched the gunpowder. However, as the day went on, Echeuber seemed less cheerful than usual. He was worried and anxious, even despondent. It raised the question in our minds about his sensitivity, and that our words had weighed a little too heavily on him. He decided to restore our opinion of him, and after dinner he moved the table away, rambled around us in a strange way, moved off, came closer, and walked around the room once again. In the end he summoned up all of his courage and stammered out that he had discovered the perpetrator of the theft. " The perpetrator is doubtlessly yourself ? -- Me, Gaëtana! Certainly not. I could not betray those who are kind to me. I have not abused your confidence. I never would abuse it. And if such an evil thought should ever cross my mind, my brother here, Guébra-Mariam,

would club me to death. -- Well, then, who would have emptied the packets of gunpowder? -- Who, Gaëtana? It wasn't a sevant like me; it was someone higher who comes often to your house. -- But only the *choum* comes to visit us, and when the *choum* is mentioned, he is spoken of as an honest man. -- Perhaps in your country, Gaëtana, but here *choums* are tempted by the devil, and they don't always resist his temptations."

Anxious about his brother's reputation, Guébra-Mariam left immediately, ran to Aylo's residence, and brought him to our house practically by force. What a scandal! the *choum* accused of theft! They gathered together, there was an outcry, tumult and extreme emotion everywhere. Finally, at our request, the most important residents of the village formed a court of justice presided over by an elder.

The plaintiff and the accused, Echeuber and Aylo, were brought before the judges. They rose up and stood on their feet, their shoulders uncovered as a sign of respect. Following local custom, they were tied together at the corners of their clothes. Neither one nor the other tried to get away, since an attempted escape would strengthen the opposition's case against them. Had one of them wanted to flee, he necessarily would have to leave his garment in the other's hands, and the clothing would speak against him as much as would his own testimony.

Echeuber and Aylo furthermore claimed that they had no fear of the outcome of the trial. Both of them felt confident that they could prove their innocence.

Aylo did not have an attorney[1]. Echeuber's case was defended by Guébra-Mariam, who was very articulate. But Aylo didn't have Guébra-Mariam's voice. What a tumult! Two loudmouths shouting at once; they spat insults in one another's faces, they were provocative, gesticulating, going at it from head to toe. What were they saying? God knows; but for sure they were not discussing our gunpowder, nor any difference they had between themselves.

After much wasted effort, the judges succeeded in controlling the arguments and reduced the case to its simplest terms. Aylo had spent the entire previous day firing gunshots. Aylo had no money to buy gunpowder; where did he get that which he had been using? Guébra-Mariam accused him of having stolen it from us. Aylo rejected this accusation as false and slanderous. He swore both on the salvation of his soul and on the death of the king that his hands did not commit any theft.

[1] There are lawyers in Abyssinia, but they are not organized as they are in France and in other parts of Europe.

Guébra-Mariam persisted, although without providing positive proof; he spoke only out of conviction. Aylo, for his part, retreated behind his dignity as the *choum*, pressed the lawyer to explain himself, and challenged him to produce witnesses. Guébra-Mariam seemed to hesitate. The *choum* took advantage of his indecision in order to take the upper hand. He proposed to his opponent that they determine the truth by a wager. Four sheep! He would bet them on the spot if Echeuber could prove his assertion. Echeuber's brother took the bet and added in another sheep. Five sheep! Aylo was too certain of his innocence to pull back. Five sheep! In addition to the five sheep, Aylo wanted to wager his ox and his cow. He would have emptied his stable, had not an unexpected incident upset his assurance and forever compromised his dignity as *choum*.

While Guébra-Mariam was accusing Aylo, and Aylo countering Guébra-Mariam with the flood of rhetoric that we've seen, the judges secretly had ordered Saïd and two men of the village to execute search warrants. Saïd had fulfilled his mission with his customary skill. He had ransacked Aylo's house and returned bearing the young *choum's* cartridge box, and with a victorious look, waving it as a sign of triumph.

Aylo paled at the sight.

He became agitated, overwhelmed with shame. One of the judges took the cartridge box[1], opened it, examined the reed tubes one by one, and showed to the impatient crowd the gunpowder that had been taken from us.

We had best not describe the humiliation suffered by the young governor of Adde-Casti. It was as though his village, the inhabitants of his village, and he himself, had all been turned over to Satan, and Satan, having made a deal with him, had just come to deliver him from this cruel predicament. To put an end to his difficulty, the tribunal hastened to pronounce judgement.

The country's regulations require that he would have to be flogged and that the cattle and sheep that he wagered be confiscated, because in similar cases the stakes always revert to the courts by law. Nevertheless, considering his youth, the easy opportunity, his previous good conduct, and several other extenuating circumstances, the tribunal agreed to present him with a brief remonstrance by ordering the restitution of the stolen gunpowder. The judgement of Solomon wasn't received with more unanimous praise. Everyone in Adde-Casti admired the moderation and the impartiality of the judges.

[1] Cartridge boxes in Abyssinia consist of a series of reed tubes lined up between two wide red leather strips. In that way they form a kind of belt that the residents wear around their loins.

Humiliated, censured by his own people, the young *choum* bore his grief in solitude. He secluded himself inside his house and remained there for twenty-four hours without taking any nourishment. Suffering and contrition made him a hero. If nobility isn't lost through poverty, it is lost through theft and lying. Pronouncing his own forfeiture, he decided that he was obliged to resign his position and to lay aside his crown as the *choum*.

It was February 24, and the day had hardly dawned. He came to our place accompanied by a servant, the only one of his subjects that remained faithful to him in his misfortune. "My despair is over, he told us. I committed an act unworthy of my station, and the shame of it will drive me from my country. I will leave Adde-Casti right now. Where will I go? God only knows. But before I go away for good, at least tell me that you forgive me, and that your resentment won't follow me in my exile." With these words his eyes filled with tears, he threw himself at our feet and asked for our blessing. Touched by his contrition, we made every effort to console him and to keep him here. We offered to reconcile him with the residents of the village. Useless words! His self-respect would not permit such a retreat. He set off to fulfill his self-sacrifice.

Several minutes later, as we were smoking our pipes under a tree, we saw the young *choum*, staff in hand, sadly going down the mountain of Adde-Casti carrying a small bundle of belongings under his arm, the paltry remains salvaged from the shipwreck of his royalty.

END OF THE FIRST VOLUME.